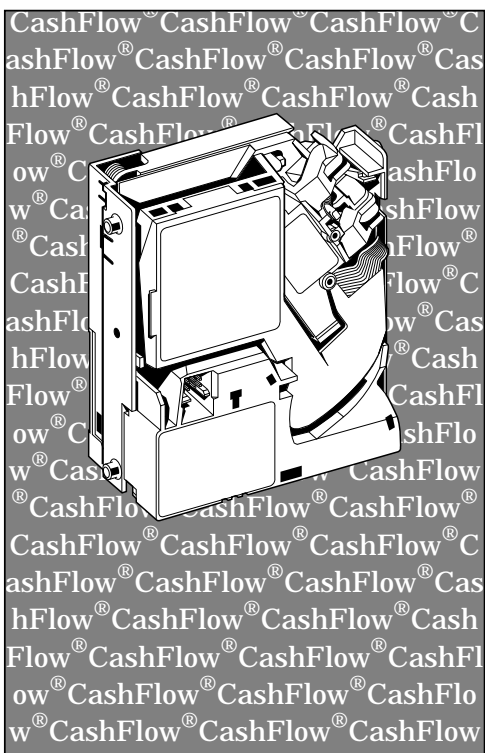


The
CASHFLOW® 360
REFERENCE SERIES
MICRO TIMER
POCKET GUIDE

**ROUTINE MAINTENANCE,
SAFETY, INSTALLATION &
TROUBLESHOOTING**



Published by :

MEI

Internet: <http://www.meigroup.com>

For information on translations in your country, please write to the Technical Communications Manager at the above address.

CashFlow® 360 micro timer Pocket Guide

©, MEI UK International Ltd 1994. All rights reserved.

Except as permitted under the relevant local legislation, no part of this publication may be copied, transmitted, transcribed, or distributed in any form or by any means, or stored in a database or retrieval system, or translated into any language (natural or computer), without the prior written permission of MEI.

MEI®, CashFlow® and the MEI device are registered trademarks.
©, MEI, 1994.

MEI reserves the right to change the product or the product specifications at any time. While every effort has been made to ensure that the information in this publication is accurate, MEI disclaims any liability for any direct or indirect losses (howsoever caused) arising out of use or reliance on this information.

This document does not necessarily imply product availability.

Part Number : **102580044**

This edition (November 1994)

CONTENTS

Routine Maintenance

Troubleshooting the
CashFlow® 360 micro timer Unit

Setting a Unit's Functions with the
MMI Switches and the MEI®
Route Alpha 250 Terminal

Address Settings for the
MEI® Route Alpha 250 Terminal

Fitting a Unit into a Maxi,
a Mini or a Midi Front Plate

Preparing and Fitting a
Channel-mounted Unit

Top Entry Adaptor Mounting -
Removal and Replacement of a Unit

Installing, Starting and Testing a Unit

Product Manuals and
Product Technical Training

Addresses of Regional Offices

User Safety Notices

WARNING

Before cleaning, servicing, removing or replacing CashFlow® units, **ALWAYS SWITCH OFF** or **ISOLATE** the **ELECTRICITY SUPPLY** to the host machine.

CAUTION

This guide is for use only by personnel trained to carry out electrical installation.

Maximum Operating Voltage

Do not apply more than the voltage specified on the unit.

Dangerous Environments

Do not operate the unit in the presence of flammable gases or fumes, or after the entry of fluid into the machine.

Disposal of Product

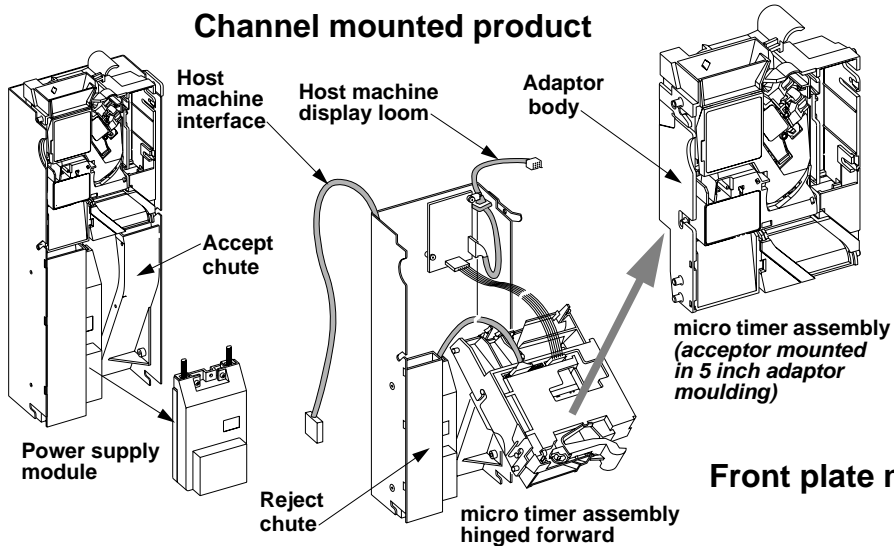
If necessary, always dispose of defective units according to local regulations.

Conformance to International Standards

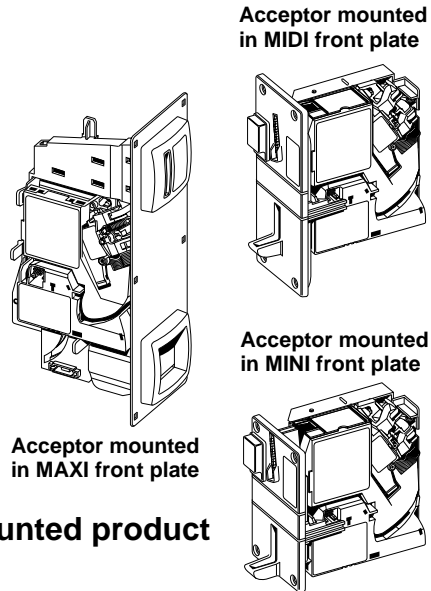
When installed and operated according to the instructions provided for the particular unit, CashFlow® products meet the applicable international and national safety standards for any country in which they are used.

CashFlow® 360 micro timer - mounting options

Channel mounted product



Front plate mounted product

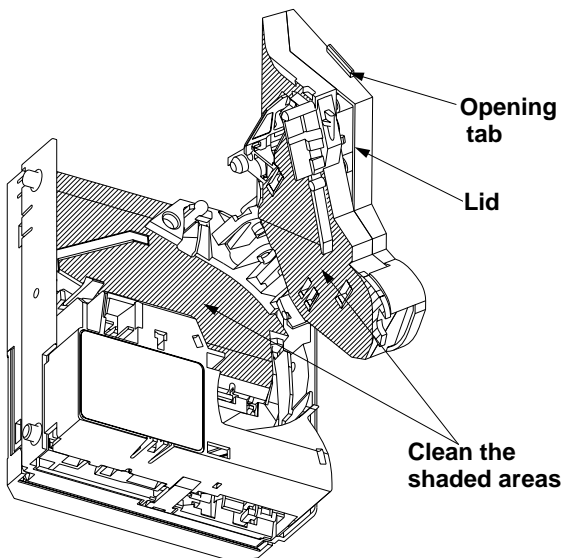


Routine Maintenance

WARNING

Switch off the power to the host machine *before* cleaning the unit

Clean the coin pathway (shown shaded in the figure) regularly with a soft cloth moistened with water. Take care that all the surfaces are dry before you close the lid of the unit, particularly if you have had to clean the unit after the entry of dirt or fluid.



Take care that no drops of water enter the unit during cleaning.

Never use solvents or abrasive creams to clean the unit. These will damage the surfaces. Ensure that the lid is fully closed after cleaning.

NOTE: If you switch the machine on when the lid of the acceptor unit is not fully closed, coins will be rejected, even if you then close the lid.

If this happens, **switch off the power to the machine for at least 15 seconds**, then close the lid again. Make sure the lid snaps shut.

Switch the power on. Check that coins are accepted.

Troubleshooting the CashFlow® 360 micro timer

Problem	Possible causes	Remedy
All coins or tokens are rejected	<p>No power to the module</p> <p>Looms damaged or dislodged</p> <p>Build up of dirt in the coin path</p> <p>The acceptor is timing-out when the power is switched on after opening and closing the lid, because the lid of the acceptor is not closed firmly.</p>	<p>Check the voltage of the power supply is correct. Power up again if necessary.</p> <p>Check that the looms are installed correctly, and that all connectors are making good contact.</p> <p>Switch the power off, clean the acceptor, close the lid firmly, switch the power on and retry.</p> <p>Check that the coin path is clear. Close the lid of the acceptor firmly. Switch the power off. Wait 15 seconds and switch the power on.</p>
Poor coin acceptance	<p>Unit is not mounted upright</p> <p>Build up of dirt in the coin path</p> <p>Lid of the acceptor is not closed firmly</p>	<p>Check that each of the modules making up the installation are locked in place securely. Check that the unit is level.</p> <p>Switch the power off, clean the acceptor, switch the power on and retry.</p> <p>Close the lid firmly. Switch the power off. Wait 15 seconds and switch the power on.</p>

Problem	Possible causes	Remedy
Individual coins or tokens are rejected	Coin/s or token/s are inhibited	Check that the individual coin(s) or token(s) are not inhibited . If necessary, enable the coin(s) or token(s) with the MMI switches or with the Route Alpha 250 terminal.
Coins are accepted but no credit is given	Looms are not fitted correctly Coin values are set incorrectly to zero	Switch off power to the machine and check the installation of the looms. Set the correct values for the coin(s), using the Route Alpha 250 terminal and the address maps in this Guide.
Coins follow an incorrect path	Parts are fitted incorrectly Coin jam inside the acceptor unit Coin entry/exit paths not aligned	Check that the accept gate and exit plates are fitted correctly. Press the reject button to open the lid of the acceptor, and remove any blockage. Check that the exit plate is securely clipped in. Check that the accept gate moves freely. Check entry/exit paths. Re-align unit and host machine entry/exit chutes.
Coins are not passing through the unit	Coin jam inside the acceptor unit	Press the reject lever to open the lid of the unit, and remove any blockage. Close the lid of the unit firmly .
No figures are being shown on the display	Display parts not fitted correctly Faulty display part, or faulty interface board	Check the connections of the display interface board. Before correcting any connection faults, switch off power to the machine . Switch off power to the machine , replace faulty display part. Replace faulty interface board.

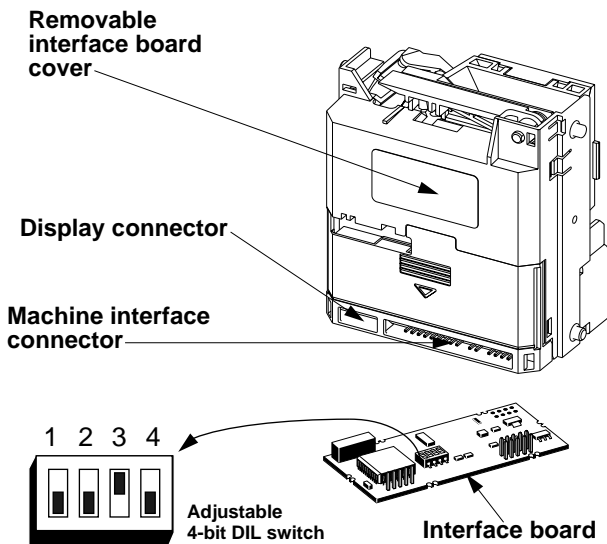
Setting the Unit's Functions with the MMI Switches

Switch off the power to the host machine *before* removing a unit

Use the Man-Machine Interface (MMI) switches to set the unit to accept or reject individual coins or tokens. The MMI switches can also be used to set or alter the vend price

Setting the MMI Switches

The MMI switches are on a board located behind a cover in the back of the unit.



The unit can be set to *enable* or *inhibit* any coin or token from its coin set.

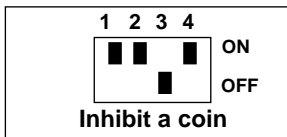
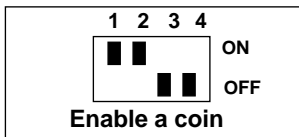
NOTE: If more than one channel is used for the same coin (for example, the coin has both wide and narrow channels), you must always use the MEI® Route Alpha 250 terminal to enable or inhibit each of the coin's channels.

Enabling or Inhibiting a Coin or a Token

1. **Switch off the power** and disconnect the looms.
2. Remove the unit from its mounting, following the instructions in this guide.

Handle a unit with care when it is out of the machine.

3. Remove the interface board cover by pressing it downward, then reconnect the looms.
4. **Switch on power to the acceptor.**
5. Set the switches as shown either to *enable* or *inhibit* the coin or token, and press the reject lever.



If the switches are already in the positions you want, change one switch, then return that switch to its original position and press the reject lever.

6. Insert the coin(s) or token(s) you want to enable or inhibit until it is accepted, then press the reject lever again.

Check your settings by inserting samples of the coins or tokens, or by making a vend.

7. **Switch off the power**, disconnect the looms and replace the board cover.
8. Replace the unit in the machine. Reconnect the looms. **Switch on the power to the machine.**

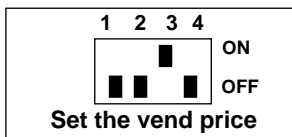
Setting the Vend Price

Use the MMI switches to set or change the vend price when you do not need to set or alter an additional function - such as the vend time.

1. **Switch off the power** and disconnect the looms.
2. Remove the acceptor from its mounting, following the instructions in this guide.

Handle a unit with care when it is out of the machine.

3. Remove the interface board cover by pressing it downward, then reconnect the looms.
4. **Switch on power to the acceptor.**
5. Set the switches as shown for setting the vend price, and press the reject lever.



If the switches are already in the positions you want, change one switch, then return that switch to its original position and press the reject lever.

6. Insert coin(s) or token(s) equal in total value to the vend price you want to set, and ensure that they are all accepted. Press the reject lever again.

Check your settings by making a vend.

7. **Switch off the power**, disconnect the looms and replace the board cover.
8. Replace the unit in the machine. Reconnect the looms. **Switch on the power to the machine.**

Setting a Vend Time and Price With a Route Alpha 250 Terminal

Use the MEI® **Route Alpha 250** terminal to set a vend time and a vend price together.

If necessary, refer to this Guide for information on using a **Route Alpha 250** terminal.

Setting the Vend Time

Set **address 49** to the unit of time required.

0 = hours **1** = minutes **2** = seconds

Set **address 48** to the number of units to be vended. From 1 to 255 units can be set.

Examples

To vend a time of 30 minutes, set address 49 to **1** (*a unit of a minute*), and set address 48 (*the number of minutes*) to **30**.

To vend a time of 55 seconds, set address 49 to **2**, and address 48 to **55**.

In each case, a *unit* of time is chosen, followed by the total number of these units to be vended.

Setting a Vend Time of Multiple Units

To set a vend time that combines minutes and seconds or hours and minutes, convert the vend time to a total of the smaller unit.

Examples

To set a vend time of one and half hours (a total of $60 + 30 = 90$ minutes), select **1** (minutes) for the *unit* of time and 90 for the number of units.

To set a vend time of one minute and twenty seconds, select a *unit* of seconds and 80 for the number of units.

Setting the Vend Price

Use the **Route Alpha 250** terminal to set a price for the vend time.

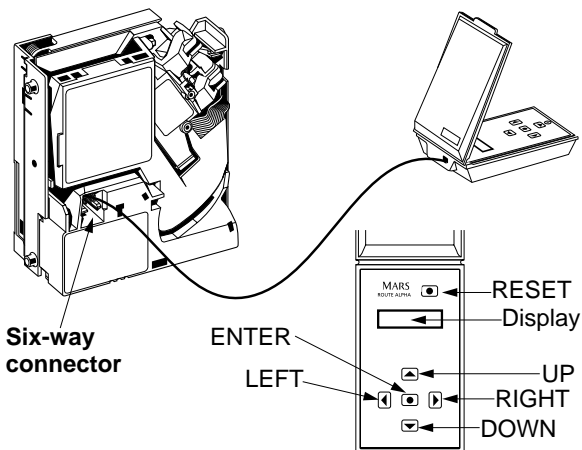
Set **address 41** to the appropriate vend price.

Setting a Unit's Functions with a MEI® Route Alpha 250 Terminal

Each piece of data which determines the unit's functions is stored in a separate address. Use the terminal to read an address and to check or set the unit's functions.

Setting Functions

Insert the plug on the **Route Alpha 250** terminal into the six-way connector in the acceptor unit.



Switch on power to the acceptor, as the **Route Alpha 250** terminal takes its power through the unit. A half-size zero is displayed at power up, followed by the software version number and then the first address number with a **dot**, or a **dot and dash** (1. or 1.-)

Functions can be changed only if a dash shows after the address number.

Press UP or DOWN slowly to display addresses one after the other. Hold down a key to display addresses at an increasing speed. Press a key twice quickly to jump large blocks of addresses.

To set a function, display its address and press ENTER to show its current value. Change the value by pressing UP or DOWN.

Press ENTER again to display the address, then press RESET to store the new value.

NOTE: If an error occurs, four half-size zeros appear. Press RESET to clear this display and to return to the current address.

Troubleshooting the MEI® Route Alpha 250 Terminal

Problem	Causes	Actions
Terminal displays an error message (half-size zero) at power-up	Communications error.	Press RESET . If problem persists, troubleshoot terminal.
Terminal displays an error message when changing between address mode and data mode	Communications error between terminal and product. Terminal does not recognise product. No signal or no power from product.	Repeat the last operation. Test terminal with new cable and with another product. Check for bent pins in all connectors.
Terminal powers up but the addresses cannot be accessed	The product is not compatible with the terminal. Corrupt HI ² component.	Different terminal is needed, or different software is needed. Contact your authorised MEI distributor.
Terminal does not power up	Bad connections or faulty cable. No power - (<i>note that the Route Alpha 250 terminal is powered through the acceptor</i>)	Check all connections. Test terminal with substitute cable and product. Replace lead if necessary. Power up the acceptor unit and troubleshoot if necessary.
Terminal powers up but one of the keys does not work	Faulty key - no keyclick is audible.	Use the terminal's self-test option. If key is faulty, send terminal for repair.
Non-standard characters are printed on the display	Faulty Route Alpha 250 terminal. Damaged display board.	Send terminal for repair to your authorised MEI distributor.

Address Settings for Use with the MEI® Route Alpha 250 Terminal

Address	Parameter	Range	Meaning	Notes
1	Coin 1 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
2	Coin 2 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
3	Coin 3 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
4	Coin 4 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
5	Coin 5 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
6	Coin 6 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
7	Coin 7 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
8	Coin 8 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
9	Coin 9 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
10	Coin 10 inhibited or allowed	0 - 1	0 = coin allowed 1 = coin inhibited	
15	Accept direction	0 - 1	0 = left 1 = right	

Address	Parameter	Range	Meaning	Notes
16	Strobes	5 or 10	1 = direction left 2 = direction right 4 = post gate left 8 = post gate right Value = the sum of the codes, where: 1 + 4 = 5 - direction left, post gate left 2 + 8 = 10 - direction right, post gate right	1 + 2 & 4 + 8 are not valid combinations
21	Coin type 1	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
22	Coin type 2	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
23	Coin type 3	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
24	Coin type 4	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
25	Coin type 5	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
26	Coin type 6	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
27	Coin type 7	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
28	Coin type 8	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	

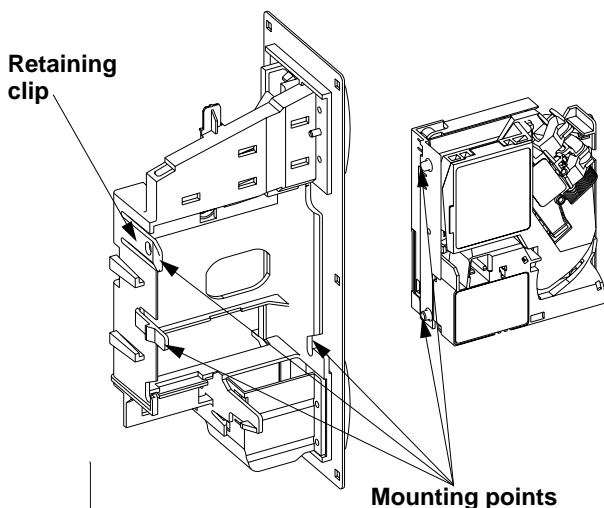
Address	Parameter	Range	Meaning	Notes
29	Coin type 9	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
30	Coin type 10	0 - 1 - 2	0 = coin 1 = value token 2 = vend token	
41	Price	0 - 65,535	Credit required for price line	
43	Display mode	1	1 = decrementing credit	
44	Display shift	0 - 1 - 2	0 = no shift 1 = shift display to right by one place 2 = shift display to right by two places	
45	Decimal point position	0 - 4	0 = retain the point on the right hand side 1 = move the point to the left once 2 = move the point to the left twice 3 = move the point to the left three times 4 = move the point to the left four times	
48	Number of units	1 - 255	Vended time = timer unit x total number of units	
49	Timer unit	0 - 1 - 2	0 = hours 1 = minutes 2 = seconds	

Address	Parameter	Range	Meaning	Notes
80	Coin scaling factor	0 - 255	Scalar applied to coin values	
81	Value of coin 1	0 - 255	Real coin value divided by coin scaling factor	
82	Value of coin 2	0 - 255	Real coin value divided by coin scaling factor	
83	Value of coin 3	0 - 255	Real coin value divided by coin scaling factor	
84	Value of coin 4	0 - 255	Real coin value divided by coin scaling factor	
85	Value of coin 5	0 - 255	Real coin value divided by coin scaling factor	
86	Value of coin 6	0 - 255	Real coin value divided by coin scaling factor	
87	Value of coin 7	0 - 255	Real coin value divided by coin scaling factor	
88	Value of coin 8	0 - 255	Real coin value divided by coin scaling factor	
89	Value of coin 9	0 - 255	Real coin value divided by coin scaling factor	
90	Value of coin 10	0 - 255	Real coin value divided by coin scaling factor	

Fitting a Unit into a Maxi Front Plate

Switch off the power to the host machine *before* fitting a unit

1. Ensure that the Maxi front plate has a suitable and secure mounting position on the machine.
2. Engage the mounting points at the base of the micro timer unit with the mountings on the face of the front plate.
3. Slide the unit into the retaining clip in the upper part of the front plate moulding.
4. Connect the interface loom.



5. **Switch on power to the machine** and carry out the start up procedure described in the *Starting and Testing* section of this guide.

Removing a Unit from a Maxi Front Plate

1. **First switch off power to the host machine.** Removal is then the reverse of the assembly steps.
2. Disconnect the interface loom from the acceptor.
3. Release the retaining clip at the upper left hand side of the front plate.
4. Tilt the acceptor forward and lift it out of the plate.

Fitting a Unit into a Mini or a Midi Front Plate

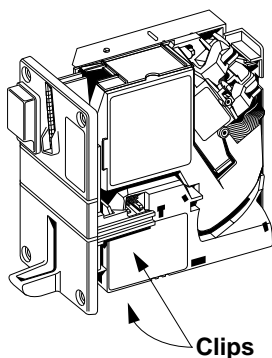
Switch off the power to the host machine *before* fitting a unit

1. Before you fit a unit into a Mini or Midi front plate, ensure that the plate has a secure mounting position on the host machine.
2. Connect the interface loom to the micro timer.
3. Hold the micro timer so that it is *squarely aligned* with the rear of the front plate, then press it gently but firmly into the clips on the plate.

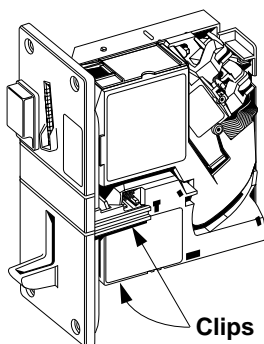
NOTE: Square alignment is essential for easy fitting. Never force the unit into place. Make sure that the clip under the unit and the clips on either side of the unit are all engaged.

4. **Switch on the power**, and start up the unit as described in the *Starting and Testing* section.

**Acceptor mounted
in a MINI front plate**



**Acceptor mounted
in a MIDI front plate**

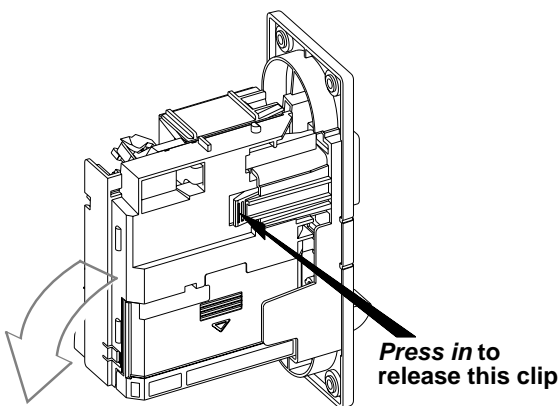
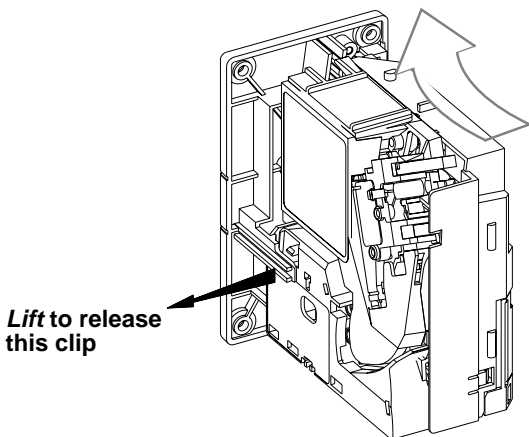


Clips are positioned on either side of and beneath a Mini and Midi front plate

Removing a Unit from a Mini or a Midi Front Plate

Switch off the power to the host machine *before* removing a unit

1. Disconnect the machine interface loom from the acceptor.
2. Release the retaining clip located *under* the acceptor, then tilt the unit upwards. Next, release the clip on the left side of the unit.

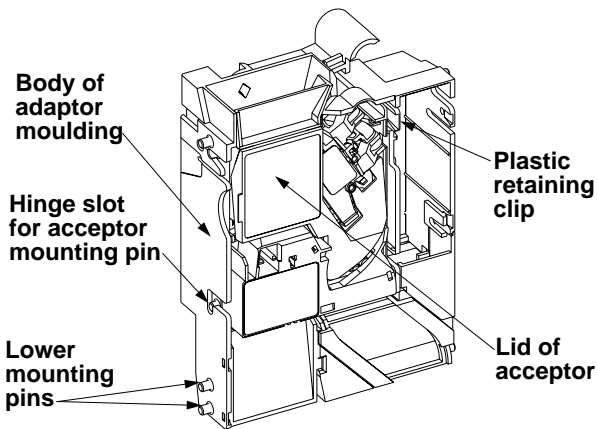


3. Release the clip on the right side of the unit, tilt the unit outwards and downwards from the front plate, then lift it free.

Removing an Acceptor from a Top Entry Adaptor

Switch off the power to the host machine *before* removing a unit

1. Pull back the metal retaining clip at the top of the channel, and lift the adaptor and acceptor assembly out of the channel.
2. Disconnect the machine interface loom from the back of the acceptor.
3. Release the plastic retaining clip located *inside* the wall of the acceptor, pressing it carefully to the right.
4. Tilt the acceptor forward to free it from the retaining clip, then remove it from the adaptor.



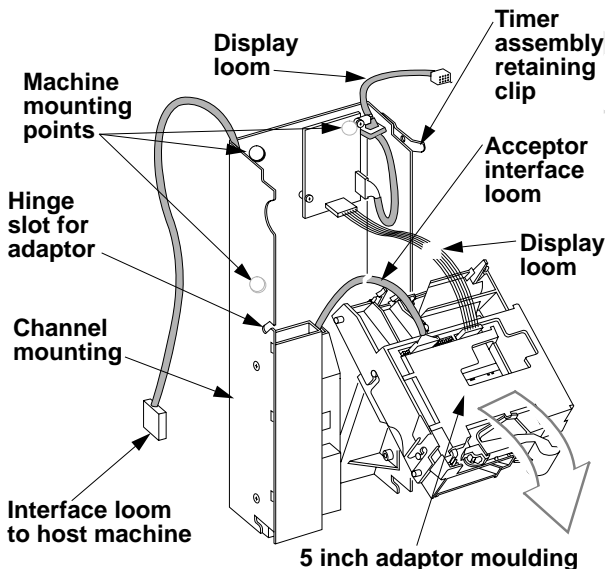
Replacing a Unit into a Top Entry Adaptor

1. Rest the mounting pins of the acceptor unit in the slots on either side of the adaptor moulding. Press the acceptor into the adaptor moulding until the retaining clip snaps shut.
2. Reconnect the interface loom to the acceptor.
3. Rest the lower mounting pins in the hinge slots of the channel. Press the adaptor assembly into the channel until the retaining clip snaps shut.

Preparing and Fitting a Channel-mounted Unit

Switch off the power to the host machine *before* fitting a unit

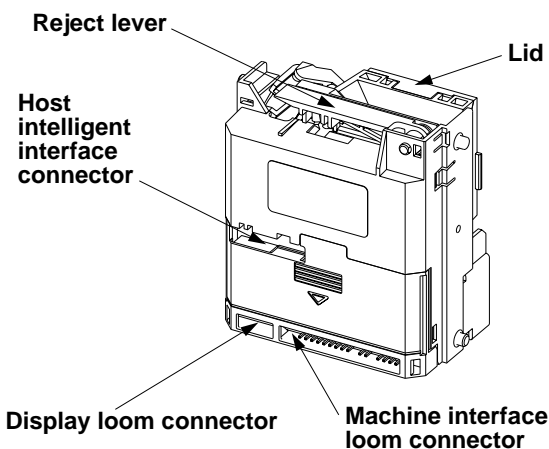
The standard 5-inch channel-mounted product is supplied fully assembled. The acceptor is carried in an adaptor moulding mounted into the channel.



1. Release the retaining clip at the top of the channel. Lift the acceptor out. Unplug the interface loom (and display loom, if fitted) from the acceptor.
2. If required, fit the accept and reject chutes, using the slots and screw holes on the side of the channel. Fit the channel into the host machine. Check the assembly is level. Tighten the fixing screws.
3. Reconnect the interface loom (and the display loom, if fitted) to the acceptor.
4. Replace the acceptor and adaptor assembly back into the channel. *Ensure the retaining clip is engaged and that the front of the coin entry cup is firmly in position. Check the looms are not trapped.*
5. Start the unit as described in the *Testing and Starting* section.

Testing and Starting a Unit After It is Installed

1. Check that the machine interface loom (and the display loom, if fitted) is inserted correctly in the back of the acceptor.
2. Check that the lid of the acceptor opens and closes fully when you press the reject button on the host machine, and that the reject lever on the unit operates freely.



3. Check that the mains power supply is connected correctly to the host machine.
4. Check that the power supply to the acceptor is at the correct voltage.
5. **Switch on power to the host machine.** Insert at least one of every coin or token from the unit's coin set. Check that all the coins or tokens are accepted.
6. Check that the vend price is correct. Make a trial vend. **Use the MMI switches or the Route Alpha 250 terminal to adjust the prices if necessary.**
7. If a display is fitted to the host machine, check that it shows the price or the accumulated credit, according to the application.
8. Check that all the looms are free from kinks and obstructions, and close the door of the machine.

The unit is now ready for use

MEI Product Manuals

Full technical details of this product are included in the **CashFlow® 360 micro timer *Product Maintenance Handbook***, a copy of which is available, with other handbooks related to the product, from your MEI Approved Distributor, or your regional **MEI** sales office.

MEI Product Training

Product training courses are available for **CashFlow®** and other MEI products.

The courses cover the technical features and the maintenance of the product, and give you hands-on experience in servicing **CashFlow®** products quickly and efficiently.

Contact your regional **MEI** sales office. for more information.

REGIONAL OFFICES

WWW.MEIGROUP.COM

THE INTELLIGENT TRANSACTIONSM

YOUR MEI REPRESENTATIVE