

# NATIONAL STANDARDS COMMISSION

# NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

#### REGULATION 9

#### SUPPLEMENTARY CERTIFICATE OF APPROVAL No \$232

This is to certify that an approval for use for trade has been granted in respect of the pattern and variant of the

ESI Model 0375/0376 AA Bulk Flowmeter Terminal Control System

submitted by K J Baillie Pty Ltd Unit B, 8 Lyonpark Road North Ryde NSW 2113.

# CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/4/93. This approval expires in respect of new instruments on 1/4/94.

Instruments purporting to comply with this approval shall be marked NSC No S232.

This approval may be withdrawn if instruments are constructed other than as described in the drawings and specifications lodged with the Commission.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0.

Signed

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Executive Director

# Descriptive Advice

Pattern: approved 14/3/88

 ESI model 0375/0376 AA control system for use with any Commissionapproved bulk flowmeter loading rack system.

Variant: approved 14/3/88

1. With the meter calibration factors and linearisation controlled by the ESI computer.

Technical Schedule No S232 describes the pattern and variant 1.

#### Filing Advice

The documentation for this approval comprises:

Supplementary Certificate of Approval No S232 dated 27/4/88 Technical Schedule No S232 dated 27/4/88 Test Procedure No S232 dated 27/4/88 Figures 1 to 4 dated 27/4/88



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No S232

Pattern: ESI Model 0375/0376 AA Bulk Flowmeter Terminal Control System.

Submittor: K J Baillie Pty Ltd Unit B, 8 Lyonpark Road North Ryde NSW 2113.

# 1. Description of Pattern

The pattern provides control of Commission-approved bulk flowmeter loading rack systems, and is designed to provide semi-automated operation by the use of driver identity cards.

Each driver is assigned an identity card which has an associated personal identification number (PIN). This is used to gain entry to the terminal site through control gates, produce a purchase order form, authorise a loading sequence and on completion of loading, produce an invoice and transfer record, and then authorise exiting from the terminal.

#### 1.1 The System

#### 1.1.1 Features

Each system has the following features, some of which are shown in Figure 1:

- 1. A number of driver identity cards;
- 2. A number of management cards for test and diagnostics;
- 3. Boom gates at entry and exit of the terminal (optional);
- 4. A purchaser's order printer;
- 5. A systems cabinet housing the central processing unit (CPU) (Figure 2) and control devices;
- 6. Data entry units (DEU's) and preset display units (PDU's) (Figure 3);
- Meter/pump emergency control panel;
- A Commission-approved pulse generator, remote counter and Smith model SS1 flow controller (as described in the documentation of NSC approval number S190) and a compatible digital control valve;
- 9. An invoice printer;
- 10. An audit trail printer (secure);
- 11. A control console; and
- 12. Remote data terminals.

Items 5, 7, 10 and 11 are located together in a secure area (Figure 1).

Item 6 - 1 DEU for each loading bay; 1 PDU for up to 4 meters.

#### 1.1.2 Functions

The functions of the system are to:

- . Provide access to unmanned terminal loading racks;
- . Authorise the loading of a predetermined order;
- . Monitor the loading operation and provide safety interlocks;
- . Monitor the transfer of product and produce audit records (Figure 4);
- Permit remote alteration (by authorised personel) of the product. density setting;
- Provide a purchaser's invoice; and
- . Provide other management information as required.

Technical Schedule No S232

The PRESET QUANTITY and QUANTITY LOADED indicators on the DEU are tested on demand from the console and display all the digits from 0 to 9 before resetting to 0.

Security of the system is maintained by the audit trail record and a hierarchy of access levels controlled by password with only the site manager and assistant having access to critical areas such as density settings.

#### 1.2 Audit Trail Printer

The audit trail printer is used to record every event undertaken by the system except the placement of the purchase order; a typical record is shown in Figure 4, and shall include the following information:

- (a) All entries to the software or hardware of the system;
- (b) The access to each item on each menu of the system;
- (c) All error messages;
- (d) Load authorisation, including load/transaction identity;
- (e) Load completion, including;
  - . Load identity,
  - Transaction identity,
  - . Product (or product code),
  - . Meter identity,
  - . Volume delivered (at ambient temperature),
  - Density,
  - . Product temperature, and
  - . Volume correct to 15°C.
- (f) Changes in calibration factor; and
- (g) Changes in density.

For each of the above, the following information is also printed:

- . Time and date,
- . Event identity and description, and
- . Identity of the person accessing the system (log name/code, driver code, etc).

## 1.3 Markings

The components 5, 6, 10 and 11 listed in clause 1.1.1 constitute the instrument, and are all to be marked with the following data, together in one location on each component:

| 0375/0376 (*) |
|---------------|
| (#)           |
| S232          |
|               |

Note: The instrument has a single model number (\*) and serial number (#); each component may have additional individual numbers.

#### 1.4 Verification Provision

Provision is made for the application of a verification mark.

# 2. Description of Variant 1

With the calibration factors of the meter (K factors) and the digital control. valve now controlled from the ESI computer, and without the Smith SS1 controller of the pattern. Up to five K factors can be chosen, coinciding with the five linearity correction points.

Entry to the program to change the K factor requires a high level security code; access is limited to top level site management. Any change in K factor is logged on the audit trail printer record (see Figure 4) and shall include the following:

| . Date, |  |
|---------|--|
|---------|--|

- . Time,
- . Event number and description,
- . Meter identification,
- . Linearity point,
- . RATE (related to flow rate),
- . K factor, and
- . Identity of operator.

The ESI computer now also has the capability of linearising the characteristic curve of every meter to which it is connected, by adjustng the K factor at up to five points. The five points are related to RATE such that:

RATE is approximately equal to flow rate divided by 9; e.g.

A RATE of 050  $\simeq$  450 L/min; and A RATE of 330  $\simeq$  2950 L/min.



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## TEST PROCEDURE No S232

The following shall be conducted in addition to any tests specified in the approval documentation for the flowmetering system and/or the pulse generator and/or any other Commission-approved components used, and in accordance with any relevant tests specified in the Inspector's Handbook.

The results shall not exceed the maximum permissible errors specified in Document 118, 2nd Edition October 1986.

# 1. For All Instruments

- (a) Using a typical order complete the loading of a tanker. Record the volume delivered into each compartment and compare with the audit trail record, the computer record and the purchaser's invoice. All indications relating to each compartment shall be the same.
- (b) Compare the density and temperature recorded on the audit trail record. against the computer record; they shall be the same.
- (c) Calculate the volumes at 15°C using the indicated density, temperature and delivered volume; they shall be correct to the nearest whole litre.
- 2. For Variant 1
- (a) Make a normal delivery with the K factors as set. Note the result and, using the meter profile screen, note the K factors.
- (b) Change the K factor at maximum flow rate to a different value. Check to ensure that the audit record displays the sequence of outputs as per the example shown in the Technical Schedule.
- (c) Make a second normal delivery.
- (d) Check that the ratio of deliveries from (a) and (c) is the inverse ratio of the K factors from (a) and (c). As this cannot be a precise number an allowance of up to 0.5% difference in these numbers is acceptable.

FIGURE S232 - 1



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FIGURE S232 - 2



Typical Systems Cabinet (CPU etc)

Data Entry Unit And Preset Display Unit



FIGURE S232 - 3

| START         FINISH         USER ID           201         Load Authorised         0402         23159         01         02         1         7200         USER ID           201         Load Authorised         0402         03159         01         02         2         7200         01         02         3         8000         000         01         02         7         7000         077         0.780         077         0.780         01         02         7         000         0.707         0.780         01         02         7         000         0.780         01         02         7         000         0.780         01         002         7         001         02         7         000         0.780         01         01         02         7         000         0.780         01         01         02         7         000         01         02         7         001         0180   | 201       Load Authorised       0402       23159       01       02       1       7200       058 H 10         201       Load Authorised       0402       23159       01       02       2       7200       05       077       051         201       Dead Complete       0402       23159       01       02       3       8500       00       0700       071       0.780         211       Meter Load Complete       0402       23159       01       PMS1       02       7       7000       70   | 10<br>11<br>11<br>11 |        | CN<br>ENS | BSSO AUSTRALIA   | A LTD AUTOMAT  | ED LOAD RACK   | AU<br>aC | DIT TRAIL/REPORT<br>METER | DBRSET      | 1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 | ני      | U & D & U       |
|---|---|----------------------|--------|-----------|------------------|----------------|----------------|----------|---------------------------|-------------|---|---------|-----------------|
|   | 01       Load Authorised       0402 23159       01       02       1       7200         01       02       3       8000       900       900       900       900       900       900       9100 <td< td=""><td></td><td>3  </td><td>ENT NO</td><td>. &amp; DESCRIPTION</td><td>CARD LOAD CUST</td><td>DEU MIK FKU</td><td>5</td><td>MELEK<br/>START FINISH</td><td>L K K S K L</td><td>1831</td><td></td><td>GRAV<br/>USER ID</td></td<> |                      | 3      | ENT NO    | . & DESCRIPTION  | CARD LOAD CUST | DEU MIK FKU    | 5        | MELEK<br>START FINISH     | L K K S K L | 1831  |         | GRAV<br>USER ID |
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| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$   | 01       02       3       8000         01       02       4       8500         01       02       5       7800         01       02       5       7800         01       02       5       7800         01       02       7       7000         01       02       7       7000         01       02       7       7000         01       02       7       7000         01       02       7       7000         01       02       7       7000         01       02       7       7000         11       Meter Load Complete       6402       23159         11       Meter Load Complete       6402       23159       1         7000       10       10413862       040103865       8491       31.0         7000       10       10       1       23.1       4400       7000         7001       10       10       10       10       10       7000         7001       10       10       10       10       10       7000         7001       10       10       10       <  |                      |        |           |                  |                | 01 02          | 2        |                           | 7200        |   |         |                 |
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| 211       Meter Load Complete       0402       23159       01       PMS2       02       491       31.0       8348       0.780         211       Meter Load Complete       0402       23159       01       PMS1       02       7       04013852       04018346       4484       32.7       4400       0.780         701       User Load Complete       0402       23159       01       PMS1       02       7       04013852       04018346       4484       32.7       4400       0.780         737       From Main Menu       File Maintenance       7       70013852       04018346       0402862       5516       7       700-Toia         701       Load Authorised       0402       23159       01       02       7       04018346       04020862       2470       0.780         201       Load Authorised       0402       23159       01       PMS2       02       7       04018346       04020862       2470       0.780         201       Meter Load Complete       0402       23159       01       PMS2       02       7       04018346       04020862       2470       0.780         201       User Load Complete       0402       23159  | 211       Meter Load Complete       0402 23159       01 PMS2 02       4       03997368       04005859       8491       31.0       8348       0.780         211       Meter Load Complete       0402 23159       01 PMS1 02       7       04013862       04018346       4484       32.7       4400       0.780         701       User Load Complete       0402 23159       01 PMS1 02       7       04013862       04018346       4484       32.7       4400       0.780         703       From Main Menu       File Maintenance       File Maintenance       7       04013862       04018346       4484       32.7       4400       0.780         701       User Load Complete       0402       01       02       7       04018346       04020862       2470       0.780         201       Meter Load Complete       0402       01       MS2       02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402       23159       01       MS2       02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Load Complete       0402       012   | :59                  | 21.    | 1 Metu    | er Load Complete | 0402 23159     | 01 PMS1 02     | 1        | 3811265 03818461          | 7196        | 30.6  | 7077    | 0.780           |
| 211       Meter Load Complete       0402 23159       01 PMS1 02 7       04013862       04018346       4484       32.7       4400 0.780         701       User Logged On       Device 1       Tom-Toia       Tom-Toia         733       From Main Menu       File Maintenance       Tom-Toia       Tom-Toia         737       From Sub Menu       Reset Fail Indicators       Tom-Toia       Tom-Toia         731       From Sub Menu       Reset Fail Indicators       Tom-Toia       Tom-Toia         701       Load Authorised       0402 23159       01       02       7       04018346       04020862       2516       32.5       2470       0.780         201       Load Authorised       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Logged On       Devi   | 211       Meter Load Complete       0402 23159       01 PMS1 02       7       04013852 04018345       4484       32.7       4400 0.780         701       User Logged On       Device 1       Tom-Toia       Tom-Toia         733       From sub Menu       File Maintenance       Tom-Toia       Tom-Toia         733       From sub Menu       File Maintenance       Tom-Toia       Tom-Toia         731       From sub Menu       Reset Fail Indicators       Tom-Toia       Tom-Toia         701       Load Authorised       0402 23159       01       02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Logged On       Device 1       02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Logged On       Device 1       02       7       04018346       04020862       2516       32.5       2470       0.780         703       From Numbu       Operator Commands and Functions       Factor Change   | :48                  | 21     | 1 Metu    | er Load Complete | 0402 23159     | 01 PMS2 02     | 4        | 3997368 04005859          | 8491        | 31.0  | 8348    | 0.780           |
| 701User Logged On<br>From Main MenuDevice 1<br>File MaintenanceTom-Toia<br>Tom-Toia737From Sub MenuFile MaintenanceTom-Toia<br>Tom-Toia701Load Authorised04022315901027201Load Authorised04022315901027201Meter Load Complete04022315901027201User Load Complete04022315901PMS202701User Logged OnDevice12224700.780703From Main MenuOperator Commands and FunctionsPetermilPetermil737From Sub MenuChange Meter K-factorsK-factor:048585709K-factor ChangeMeter : 22SU Number 1Rate:050K-factor:048585709K-factor ChangeMeter : 22SU Number 5Rate:200K-factor:048585   | 701       User Logged On<br>Krom Main Menu       Device 1       Tom-Toia         733       From Nain Menu       File Maintenance       Tom-Toia         731       From Sub Menu       Reset Fail Indicators       Tom-Toia         701       Load Authorised       0402 23159       01       02       7         201       Load Authorised       0402 23159       01       02       7       Tom-Toia         201       Load Authorised       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         703       From Main       Operator Commands and Functions       Factor Change       Meter : 2220 Number 1       Rate: 050  | :40                  | 21.    | 1 Metu    | er Load Complete | 0402 23159     | 01 PMS1 02     | 7 0      | 4013862 04018346          | 4484        | 32.7  | 4400    | 0.780           |
| 738From Main MenuFile MaintenanceTom-Toia737From Sub MenuReset Fail IndicatorsTom-Toia201Load Authorised04022315901027211Meter Load Complete04022315901027211Meter Load Complete04022315901NS2027211Meter Load Complete04022315901NS2027211Meter Load Complete04022315901PMS2251632.524700.780701User Logged OnDevice1270401834604020862251632.524700.780701User Logged OnDevice1770401834604020862251632.524700.780703Trom Sub MenuDevice17777777703From Sub MenuChange Meter K-factors6K-factor:048585777703K-factor ChangeMeter : 22SU Number 5Rate: 200K-factor:04858577  | 738       From Main Menu       File Maintenance       Tom-Toia         737       From Sub Menu       Reset Fail Indicators       Tom-Toia         201       Load Authorised       0402 23159       01       02       7         201       Load Authorised       0402 23159       01       02       7       701         211       Meter Load Complete       0402 23159       01       02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01       PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Load Complete       0402 23159       01 <pms2 02<="" td="">       7       04018346       04020862       2516       32.5       2470       0.780         701       User Load Complete       0402 23159       01<pms2 02<="" td="">       7       04018346       04020862       2516       32.5       2470       0.780         703       From Main       Operator Commands and Functions       Petermil       Petermil         737       From Sub Menu       Operator Commer 1       Rate: 250       K-factor: 048535       7       Petermil      &lt;</pms2></pms2>  | :42                  | 20     | l Usei    | r Loqged On      | Device 1       |                |          |                           |             |   | 10<br>T | n-Toia          |
| 737From Sub MenuReset Fail IndicatorsTom-Toia201Load Authorised0402 2315901027251632.524700.780211Meter Load Complete0402 2315901PMS20270401834604020862251632.524700.780701User Logged OnDevice 10402 2315901PMS20270401834604020862251632.524700.780701User Logged OnDevice 1Operator Commands and FunctionsChange Meter K-factorsPetermilPetermil737From Sub MenuOperator Commends and FunctionsK-factor:048585PetermilPetermil709K-factor ChangeMeter :22SU Number 1Rate:050K-factor:048585Petermil709K-factor ChangeMeter :22SU Number 5Rate:200K-factor:048585  | 737From Sub MenuReset Fail IndicatorsTom-Toia201Load Authorised0402 2315901027251632.524700.780211Meter Load Complete0402 2315901PMS20270401834604020862251632.524700.780201User Logged OnDevice120401834604020862251632.524700.780701User Logged OnDevice10peratorCommands and FunctionsPetermil703From Sub MenuOperator Commands and FunctionsK-factor:048585709K-factor ChangeMeter:22SU Number 1Rate:050K-factor:048585709K-factor ChangeMeter:22SU Number 5Rate:200K-factor:048585709K-factor ChangeMeter:22SU Number 5Rate:200K-factor:048529   | :58                  | 738    | 3 Froi    | m Main Menu      | File M         | aintenance     |          |                           |             |   | Ц<br>Ц  | n-Toia          |
| 201       Load Authorised       0402 23159       01       02       7       2516       32.5       2470       0.780         211       Meter Load Complete       0402 23159       01       PMS2       02       7       04018346       04020862       2516       32.5       2470       0.780         211       Meter Load Complete       0402 23159       01       PMS2       02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Logged On       Device       1         7       Petermil         733       From Main Menu       Operator Commands and Functions       Change Meter K-factors       Fetermil       Petermil         703       K-factor Change       Meter : 22SU Number 1       Rate: 050       K-factor: 048585       Petermil         703       K-factor Change       Meter : 22SU Number 5       Rate: 200       K-factor: 048529       Petermil  | 201       Load Authorised       0402 23159       01       02       7       04018346       04020862       2516       32.5       2470       0.780         211       Meter Load Complete       0402 23159       01       PMS2       02       7       04018346       04020862       2516       32.5       2470       0.780         201       User Logged On       Device       1       Petermil       Petermil         701       User Logged On       Device       1       Petermil       Petermil         703       From Main Menu       Operator Commands and Functions       Petermil       Petermil         703       From Sub Menu       Operator Commends and Functions       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       050       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       200       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       200       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       200       K-factor:       048585  | :15                  | 73     | 7 Fro     | m Sub Menu       | Reset          | Fail Indicato  | Ø,       |                           |             |   | Ъ0<br>Ц | n-Toia          |
| 211       Meter Load Complete       0402 23159       01 PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Logged On       Device 1       Petermil       Petermil         733       From Main Menu       Operator Commands and Functions       Petermil         734       From Sub Menu       Operator Commands and Functions       Petermil         709       K-factor Change       Meter:       22SU Number 1       Rate:       050         709       K-factor Change       Meter:       22SU Number 5       Rate:       050       K-factor:       048585  | 211       Meter Load Complete       0402 23159       01 PMS2 02       7       04018346       04020862       2516       32.5       2470       0.780         701       User Logged On       Device 1        Petermil       Petermil         733       From Main Menu       Operator Commands and Functions       Petermil       Petermil         737       From Sub Menu       Operator Commends and Functions       Petermil       Petermil         709       K-factor Change       Meter:       22SU Number 1       Rate:       050       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       050       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       000       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       000       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       000       K-factor:       048585         709       K-factor Change       Meter:       22SU Number 5       Rate:       200       K-factor:       048529         709       Ty   | :02                  | 20     | 1 Load    | d Authorised     | 0402 23159     | 01 02          | 7        |                           | 2516        |   |         |                 |
| 701User Logged OnDevice 1Petermil738From Main MenuOperator Commands and FunctionsPetermil737From Sub MenuChange Meter K-factorsPetermil709K-factor ChangeMeter : 22SU Number 1Rate: 050K-factor: 048585709K-factor ChangeMeter : 22SU Number 5Rate: 200K-factor: 048529   | <ul> <li>701 User Logged On Device 1</li> <li>738 From Main Menu Operator Commands and Functions Petermil Petermil</li> <li>737 From Sub Menu Change Meter K-factors</li> <li>79 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585</li> <li>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529</li> <li>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529</li> </ul>  | :32                  | 21     | 1 Met     | er Load Complete | 0402 23159     | 01 PMS2 02     | 7 0      | 4018346 04020862          | 2516        | 32.5  | 2470    | 0.780           |
| 701 User Logged ON DEVICE 1<br>738 From Main Menu Operator Commands and Functions Petermil<br>737 From Sub Menu Change Meter K-factors<br>709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529  | 701 User Logged ON DEVICE 1<br>738 From Main Menu Operator Commands and Functions Petermil<br>737 From Sub Menu Change Meter K-factors 050 K-factor: 048585 Petermil<br>709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529  | 2                    | i<br>i | :         |                  | -              |                |          |                           |             |   | Ċ       |                 |
| <ul> <li>738 From Main Menu</li> <li>737 From Sub Menu</li> <li>79 K-factor Change</li> <li>709 K-factor Change</li> <li>709 K-factor Change</li> <li>709 K-factor Change</li> <li>700 K-factor Change</li> </ul>   | <ul> <li>738 From Main Menu Operator Commands and Functions Petermil</li> <li>737 From Sub Menu Change Meter K-factors</li> <li>709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585</li> <li>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529</li> <li>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529</li> </ul>   | : 36                 | 02     | l Use     | r Logged Un      | Device 1       |                |          |                           |             |   | ר<br>ח  |                 |
| 737 From Sub Menu Change Meter K-factors Petermil<br>709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529   | 737 From Sub Menu Change Meter K-factors Petermil<br>709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529<br>709 K-factor Change Meter : 22SU Audit Record  | :56                  | 738    | 9 Froi    | m Main Menu      | Operati        | or Commands ar | nd Fu    | nctions                   |             |   | Pe      | cermil          |
| 709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529  | 709 K-factor Change Meter : 22SU Number 1 Rate: 050 K-factor: 048585<br>709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529<br>Typical Audit Record  | :22                  | 73     | 7 From    | m Sub Menu       | Change         | Meter K-facto  | or s     |                           |             |   | Pe      | cermil          |
| 709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529  | 709 K-factor Change Meter : 22SU Number 5 Rate: 200 K-factor: 048529<br>Typical Audit Record  | :36                  | 70,    | 9 K-fi    | actor Change     | Meter : 22SU N | umber 1 Rate   | •        | 50 K-factor:              | 048585      |   |         |                 |
|   | Typical Audit Record  | :13                  | 70     | 9 K-fi    | actor Change     | Meter : 22SU N | umber 5 Rate   |          | 00 K-factor:              | 048529      |   |         |                 |
|   |   |                      |        |           |                  |                |                |          |                           |             |   |         |                 |

FIGURE S232 - 4

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