National Standards Commission

Supplementary Certificate of Approval

No S244

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Postec Model FCC Driveway Flowmeter Control System

submitted by Postec Engineering Ltd
Main Street
Albany Auckland New Zealand.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/12/93.
This approval expires in respect of new instruments on 1/12/94.

Instruments purporting to comply with this approval shall be marked NSC No S244 and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S244 in addition to the approval number of the instrument.

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It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with the Commission's Document 106.

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

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Special:

Instruments are only approved for installations incorporating the Commission-approved driveway flowmeters and indicators described in this approval.

Instruments may only be used for central unit price setting of driveway flowmeters or indicators which have been Commission-approved with that facility.

Special: for Provisional variant 17

This approval is subject to review on or after 1/11/94.
This approval expires in respect of new instruments on 1/11/95.

Instruments purporting to comply with this approval shall be marked NSC No PS244 and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No PS244 in addition to the approval number of the instrument.

DESCRIPTIVE ADVICE

Pattern: approved 15/11/88

- A Postec model FCC driveway flowmeter control system for use with Production Engineering Retron 80 or Empec 80 indicators.

Variant: approved 23/3/89

1. For use with Email Eclipse indicators.

Variants: approved 23/3/89

2. For use with various Gilbarco driveway flowmeter indicators.

3. With an IBM model 4683 cash register and an IBM PS/2 series computer using 'Breeze' point of sale software.

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Variant: approved 1/5/89

4. For use with Email MPP indicators.

Technical Schedule No S244 describes the pattern and variants 1 to 4.

Variant: provisionally approved 14/9/90 - approved 13/2/91

5. For use with up to 2 Solution Technology model ST1 driveway flowmeter control systems used in accordance with NSC approval No S236.

Variants: approved 13/2/91

6. For use with Production Engineering multi-product driveway flowmeters.

7. With one or more IBM model 4684 point of sale units, using 'Breeze' point of sale software.

Technical Schedule No S244 Variation No 1 describes variants 5 to 7.

Variants: approved 30/1/92

8. For use with driveway flowmeters fitted with Compac Industries model C3000H flowmeter indicators.

9. With one or more Postec model FORMAN control consoles.

Variants: approved 24/3/92

10. With a Set Technologies model MPRS IPC control console.

11. With a Postec model 3 FCC control unit.

Variant: approved 10/4/92

12. With one or more IBM PS/1 and/or PS/2 series personal computers and/or model 4684 point of sale units, using the 'PetroPos' point of sale software.

Variant: provisionally approved 10/4/92 - approved 23/4/92

13. With one or more IBM PS/1 and/or PS/2 series personal computers and/or model 4684 point of sale units, using the 'Breeze' point of sale software.

Technical Schedule No S244 Variation No 2 describes variants 8 to 13.

Variant: approved 22/2/93

14. With one or more Casio model SA-1000 control consoles including point of sale facilities.

Technical Schedule No S244 Variation No 3 describes variant 14.

Variants: approved 22/10/93

15. With one or more IBM PS/2 series and/or PS/VP series personal computers and/or model 4693 or 4694 point of sale units, using the 'Breeze' point of sale software.

16. For use with certain Email and/or Production Engineering driveway flowmeter indicators and a Production Engineering model Autoserve control system.

Variant: provisionally approved 22/10/93

17. For use with Compac model C3000H driveway flowmeter indicators and a Production Engineering model Autoserve control system.

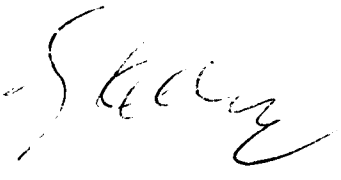
Technical Schedule No S244 Variation No 4 describes variants 15 to 17.

FILING ADVICE

Supplementary Certificate of Approval No S244 dated 23/7/93 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises.

Supplementary Certificate of Approval No S244 dated 9/3/94
Technical Schedule No S244 dated 23/10/89
Technical Schedule No S244 Variation No 1 dated 25/3/91
Technical Schedule No S244 Variation No 2 dated 21/7/92 (incl. Notification of Change)
Technical Schedule No S244 Variation No 3 dated 23/7/93
Technical Schedule No S244 Variation No 4 dated 9/3/94
Test Procedure No S244 dated 23/10/89
Figures 1 to 3 dated 23/10/89
Figures 4 and 5 dated 25/3/91
Figures 6 to 12 dated 21/7/92
Figure 13 dated 23/7/93
Figures 14 and 15 dated 9/3/94

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.



National Standards Commission

TECHNICAL SCHEDULE No S244

Pattern: Postec Model FCC Driveway Flowmeter Control System.

Submittor: Postec Engineering Ltd
Suite 1, Wheeler Building
Albany Auckland New Zealand.

1. Description of Pattern

The pattern is a Postec model FCC control system for use in any Commission-approved flowmetering system using any driveway flowmeter fitted with a Production Engineering model Retron 80 or Empec 80 (model 42221) indicator.

1.1 Features

The system may be used with up to 32 driveway flowmeters with a maximum of 22 displayed on any one visual display unit (VDU). The system has facilities including:

- a Postec model V1/P1 control unit (Figure 1);
- a modified Sanyo model 720 electronic cash register (Figure 2) with associated facilities including flowmeter authorisation functions and a purchaser's indicator;
- one or more visual display units (Figure 2);
- a printer for the vendor's record and purchaser's receipt;
- a dual-memory facility;
- a facility for setting up to 15 grades of fuel or other products;
- a pump stop button and an all pumps emergency stop button; and
- central unit price setting which may also control forecourt unit price sign indicators.

1.2 Cash Register

The cash register facilities shall not interact with the console facility in any way which would cause an incorrect indication of the measured volume or price. The register may be fitted with an additional alphanumeric display for managerial information.

1.3 Segment Check

On power up, the computer automatically performs a systems check, then displays a message on the VDU and causes the purchaser's indicator and the forecourt unit price indicator (if connected to the central unit price setting facility) to go through an all 8's routine.

1.4 Dual-memory Facility

This facility allows two purchasers to operate simultaneously i.e. a second transaction may be carried out while a previous transaction is retained in memory and has not yet been completed.

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1.5 Markings

The cash register, the control unit and the VDU are marked with the following data, together in one location:

Manufacturer's name or mark
Serial number
Model number
Approval number NSC No S244

1.6 Verification Provision

Provision is made for a verification mark to be applied.

2. Description of Variants

2.1 Variant 1

With a model V1/E1 control unit for use in any Commission-approved driveway flowmetering system using any driveway flowmeter fitted with an Email model Eclipse indicator.

2.2 Variant 2

With various model control units for use with any Commission-approved driveway flowmeters fitted with the Gilbarco indicators listed below:

Control Unit	Indicator
V1/G1 Protocol 1	Electroline
V1/G2 Protocol 2	Highline (Calcopac) *
V1/G3 Protocol 2	Multi-product DTO3616

* Flowmeters fitted with Calcopac indicators shall not be used for central unit price setting.

2.3 Variant 3

With an IBM model 4683 electronic cash register and an IBM model 30 286 PS/2 computer (Figure 3).

2.4 Variant 4

With a model V1/E2 control unit for use in any Commission-approved driveway flowmetering system using any driveway flowmeter fitted with an Email model MPP (multi-product) indicator.

National Standards Commission

TEST PROCEDURE No S244

The following tests should be conducted in conjunction with any tests specified in the approval documents for the driveway flowmeters to which this instrument is connected.

1. Postpay Mode (including dual-memory test)

(i) At the console select and authorise a driveway flowmeter and make a delivery. The details of the transaction will be displayed in the SALE column on the visual display unit (VDU).

(ii) Remove the nozzle from its hang-up position, authorise the flowmeter if necessary, and then deliver sufficient fuel to cause the price and quantity indicators to move significantly off zero. Stop the flowmeter by returning the nozzle to its hang-up.

(iii) At the console, check that the details of the first transaction are now displayed in the MEMORY column, and that a SAVED DELIVERY record has been printed by the journal printer of the cash register.

(iv) Complete the transactions. Check that both SALE and MEMORY columns are now clear.

(v) Repeat for a number of flowmeters.

2. Prepay Operation

(i) Conduct a suitable prepay test on one or more driveway flowmeters. Observe that the flowmeter stops at the preset value.

(ii) For a partially completed delivery, observe that the driveway flowmeter cannot be authorised for at least 1 minute after the nozzle has been hung up.

A REFUND notice appears on the display after the nozzle is hung up if a prepay delivery is not fully completed.

3. Price Setting

(i) Conduct a price change for one or more grades of fuel. Observe that the displays on the corresponding driveway flowmeter blank for at least 1 minute after the price change, and that the driveway flowmeter cannot be authorised during this period.

(ii) Attempt to change the price of a grade of fuel whilst a delivery is in progress. This shall not be possible until the delivery has been completed.

National Standards Commission

TECHNICAL SCHEDULE No S244

VARIATION No 1

Pattern: Postec Model FCC Driveway Flowmeter Control System.

Submittor: Postec Engineering Ltd
Main Street
Albany Auckland New Zealand.

1. Description of Variants

1.1 Variant 5

For use with up to 2 Solution Technology model ST1 driveway flowmeter control systems used in accordance with NSC approval No S236.

1.2 Variant 6

With a model V1/P1 control unit for use in a Commission-approved driveway flowmetering system using any approved models of the Production Engineering 7000, 8000 and 9000 series of multi-product driveway flowmeters as described in the documentation of NSC approval No 5/6A/86.

1.3 Variant 7

The Postec model FCC control system with one or more IBM model 4684 point of sale units and IBM visual display units and keyboards (Figure 4) and with up to 60 driveway flowmeters which are Commission-approved for use with the FCC system.

Figure 5 shows a typical system.

National Standards Commission

TECHNICAL SCHEDULE No S244

VARIATION No 2

Pattern: Postec Model FCC Driveway Flowmeter Control System.

Submittor: Postec Engineering Ltd
Main Street
Albany Auckland New Zealand.

1. Description of Variants

1.1 Variant 8

With a model V1/C1 control unit for use in a Commission-approved driveway flowmetering system using any driveway flowmeter fitted with a Compac Industries model C3000H driveway flowmeter indicator as described in the documentation of NSC approval No S280.

1.2 Variant 9

Any Commission-approved Postec FCC driveway flowmeter control system now connected with one or more Postec model FORMAN control consoles and one or more visual display units (Figure 6). The model FORMAN console is approved for use under outdoor, open-air conditions over a temperature range of -10°C to +45°C. (#)

Two versions of the FORMAN console are available; the model 2 version has all the features of the model 1 and in addition has a memory facility when used with an uninterruptible power supply.

A typical system is shown in Figure 7, including connection to auxiliary devices such as personal computers and electronic cash registers.

NOTE: (#) - Unless otherwise stated, the pattern and variants are approved for use under indoor, non-air-conditioned conditions over a temperature range of 0°C to +40°C.

1.3 Variant 10

Any Commission-approved Postec FCC driveway flowmeter control system which includes no more than 16 driveway flowmeters now connected with a Set Technologies model MPRS IPC control console and displays (Figure 8), using the 'Set Technologies' point of sale software.

A typical system is shown in Figure 9.

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1.4 Variant 11

With a Postec model 3 FCC ('Forecourt Communications Controller') control unit (Figure 10) instead of the control unit of the pattern and variants.

The model 3 FCC is approved for use under outdoor, open-air conditions over a temperature range of -10°C to +45°C. (#)

NOTE: (#) - Unless otherwise stated, the pattern and variants are approved for use under indoor, non-air-conditioned conditions over a temperature range of 0°C to +40°C.

1.5 Variant 12

With one or more IBM model PS/1 2011 and/or PS/1 2121 personal computers, and/or PS/2 series personal computers (Figure 11) of certain models (*), and/or model 4684 point of sale units (Figure 3), using the General Software Systems 'PetroPos' point of sale software, and with up to 60 driveway flowmeters which are Commission-approved for use with the Postec model 3 FCC system.

Figure 9 shows a typical system. The keyboards used may be in a variety of configurations and different to that shown in Figure 11.

NOTE: (*) - PS/2 series models for use with this variant include 30, 30-286, 35, 35SX, 40, 55SX, 56, 57, 70, 73, 80, 90 and 95; the Commission should be contacted concerning other compatible models.

1.6 Variant 13

With one or more IBM model PS/1 personal computers and/or IBM PS/2 series personal computers (Figure 12) of certain models (@), and/or model 4684 point of sale units (Figure 3), using the 'Breeze' point of sale software, and with up to 60 driveway flowmeters which are Commission-approved for use with the Postec model 3 FCC system.

Figure 9 shows a typical system. The keyboards used may be in a variety of configurations and different to that shown in Figure 12.

NOTE: (@) - PS/2 series models for use with this variant include 30, 30 286, 35, 45, 50, 55, 57, 60, 65, 70, 80, 90 and 95; the Commission should be contacted concerning other compatible models.

NOTIFICATION OF CHANGE

1. In Technical Schedule No S244 dated 23/10/89, clause 2.3 Variant 3 is amended to read;

> "With an IBM model 4683 electronic cash register and IBM **PS/2 series personal computer of certain models (@) using the 'Breeze' point of sale software** (Figure 3).
>
> **NOTE:** (@) - PS/2 series models for use with this variant include 30, 30 286, 35, 45, 50, 55, 57, 60, 65, 70, 80, 90 and 95; the Commission should be contacted concerning other compatible models."

2. In Technical Schedule No S244 Variation No 1 dated 25/3/91, clause **1.3 Variant 7** is amended to read, in part;

> "... IBM model 4684 point of sale units **using the 'Breeze' point of sale software**, and IBM visual display units ..."

National Standards Commission

TECHNICAL SCHEDULE No S244

VARIATION No 3

Pattern: Postec Model FCC Driveway Flowmeter Control System.

Submittor: Postec Engineering Ltd
Main Street
Albany Auckland New Zealand.

1. Description of Variant 14

Any Commission-approved Postec FCC driveway flowmeter control system which includes one or more Casio model SA-1000 control console and displays (Figure 13) connected with up to 64 driveway flowmeters. The model SA-1000 includes point of sale facilities.

A typical system would be similar to that shown in Figure 9.

National Standards Commission

TECHNICAL SCHEDULE No S244

VARIATION No 4

Pattern: Postec Model FCC Driveway Flowmeter Control System.

Submittor: Postec Engineering Ltd
Main Street
Albany Auckland New Zealand.

1. Description of Variants

1.1 Variant 15

With one or more IBM PS/2 series personal computers (Figure 12) of certain models (@), and/or PS/VP series personal computers (Figure 14) of certain models (#), and/or model 4693 or 4694 point of sale units (Figure 15), using the 'Breeze' point of sale software, and with up to 60 driveway flowmeters which are Commission-approved for use with the Postec model 3 FCC system.

Instruments shall not be used for prepay transactions.

Figure 9 shows a typical similar system. The keyboards used may be in a variety of configurations and different to that shown in Figures 14 and 15.

NOTE: (@) - PS/2 series models for use with this variant include 30, 30 286, 35, 45, 50, 55, 57, 60, 65, 70, 80, 90 and 95; the Commission should be contacted concerning other compatible models.

(#) - PS/VP series models for use with this variant include 6381 and 6384; the Commission should be contacted concerning other compatible models.

1.2 Variant 16

A Postec model FCC control unit now fitted with a model GUPI interface board and approved for use with a combination of Commission-approved driveway flowmeters or driveway flowmeters fitted with any of the indicators listed below and connected to a Production Engineering model Autoserve driveway flowmeter control system as described in the documentation of NSC approval No S197A.

- Email Eclipse MVR79 series indicators, as described in the documentation of NSC approval No S110A; and/or

- Any model of Email multi-product driveway flowmeter as described in the documentation of NSC approval No 5/6A/85 fitted with the indicator described for the pattern of that approval; and/or

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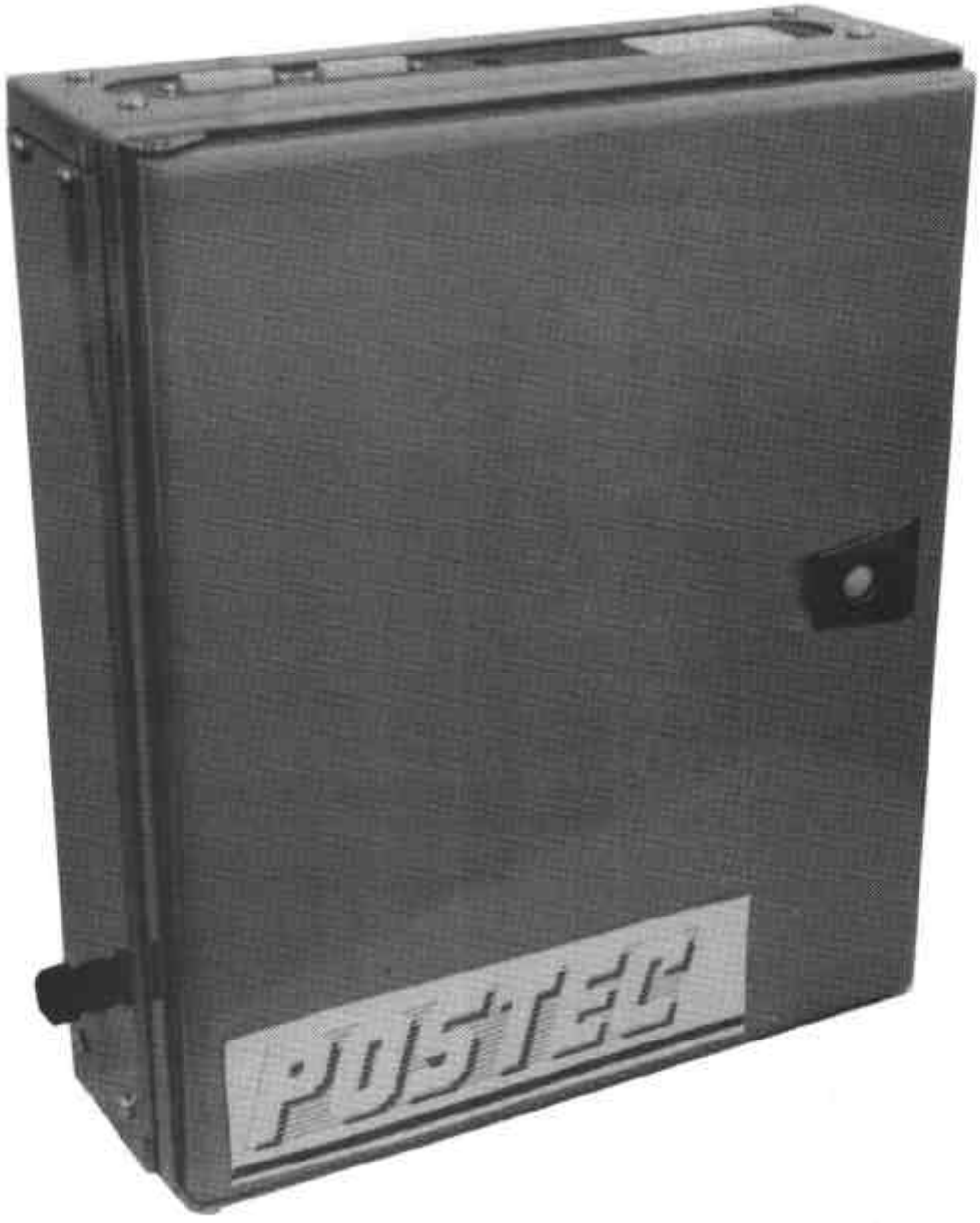
- Production Engineering Retron 80 series indicators, as described in the documentation of NSC approval No S101A; and/or

- Any model of Production Engineering multi-product driveway flowmeter as described in the documentation of NSC approval No 5/6A/86 fitted with the model MHP indicator described for the pattern of that approval.

1.3 Variant 17

A Postec model FCC control unit now fitted with a model GUPI interface board and approved for use with a combination of Commission-approved driveway flowmeters fitted with the Compac model C3000H indicators, as described in the documentation of NSC approval No S280, and connected to a Production Engineering model Autoserve driveway flowmeter control system as described in the documentation of NSC approval No S197A.

Figure S244 - 1

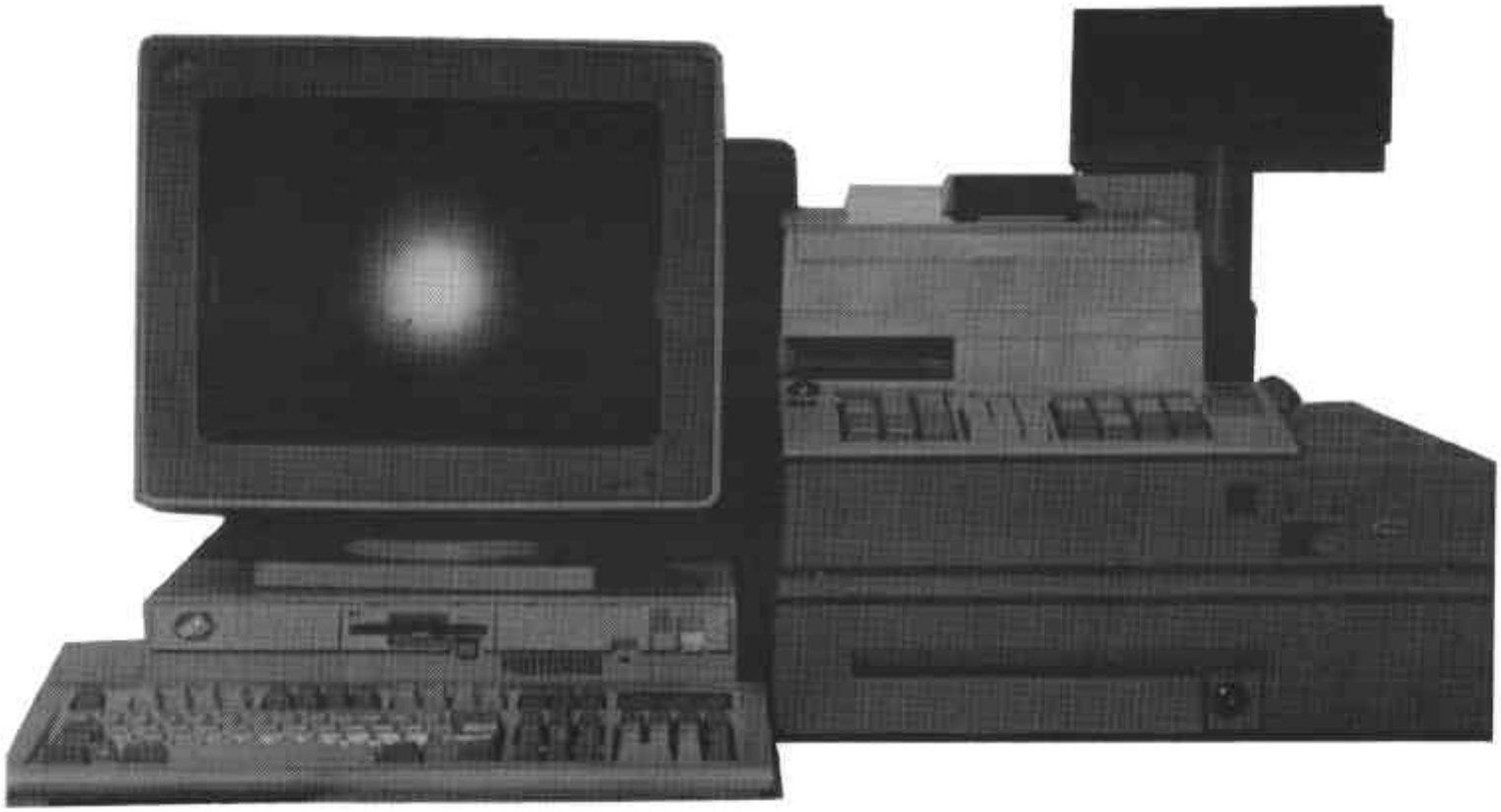


Postec Model V1/P1 Control Unit

Figure S244 - 2

Sanyo Model 720 ECR

Figure S244 - 3

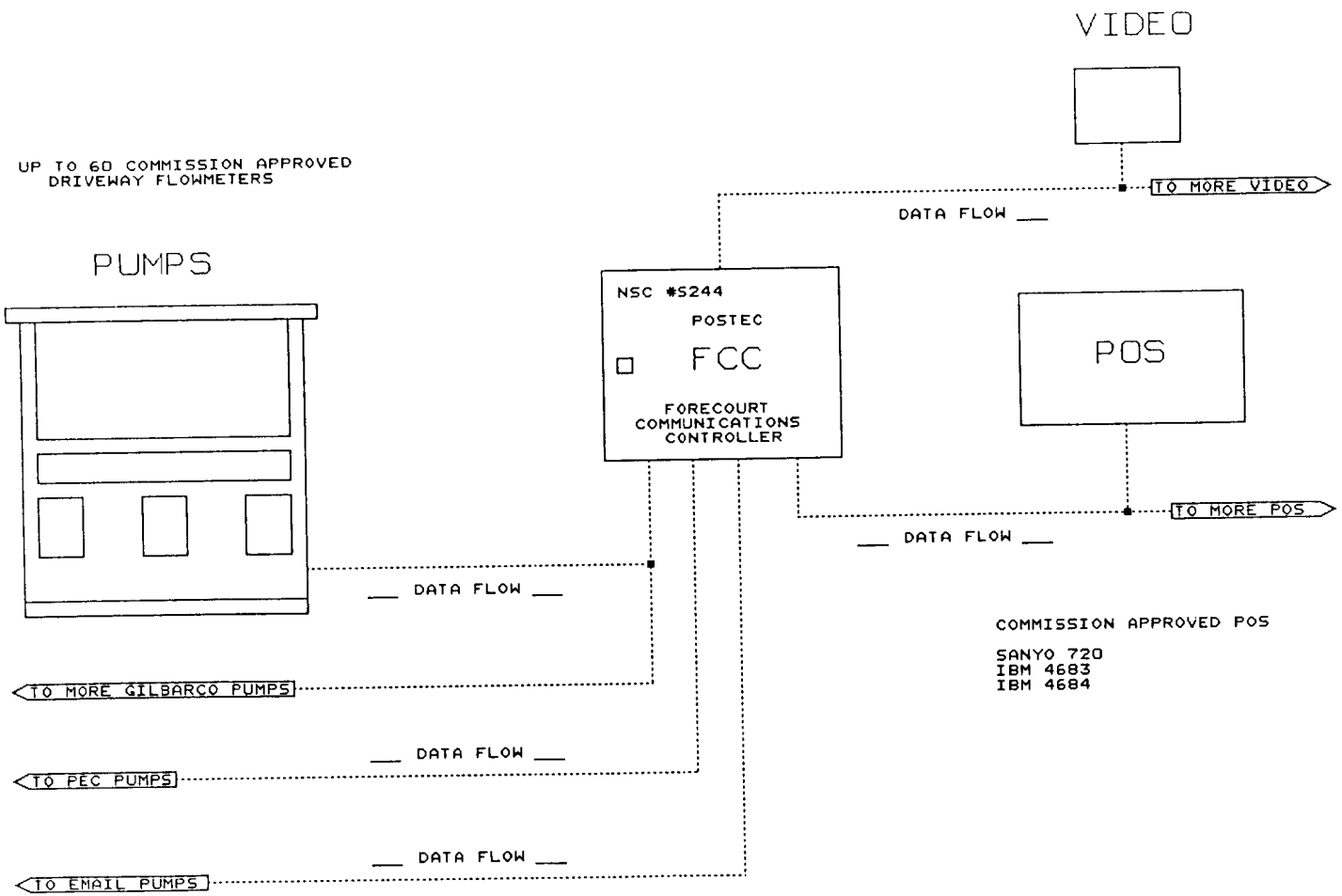


IBM Model PS/2 Computer and Model 4683 ECR

FIGURE S244 - 4

IBM 4684 POS Unit with IBM VDU and Keyboard

FIGURE S244 - 5

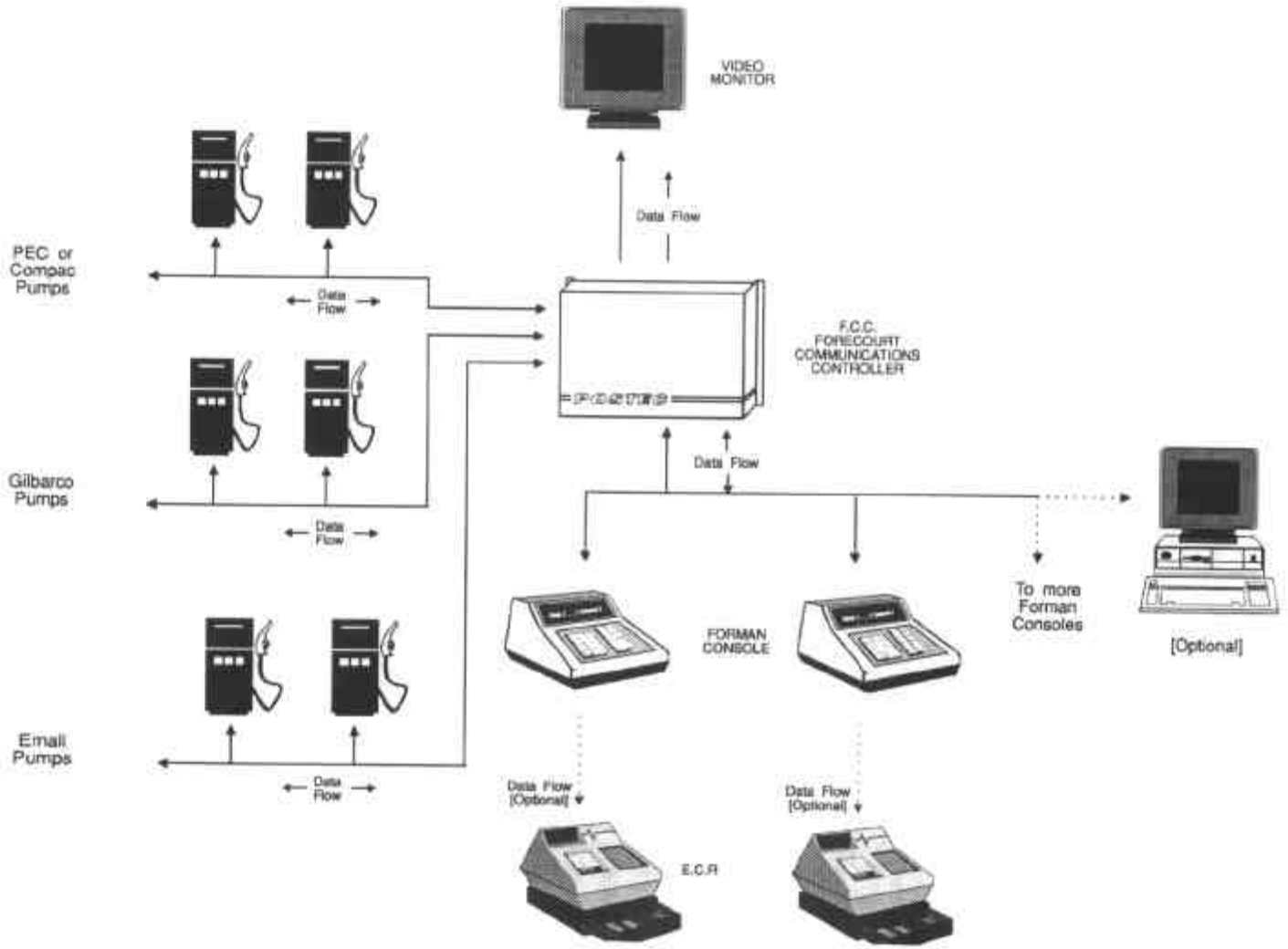


Typical FCC System

FIGURE S244 - 6

Postec Model FORMAN Console and Display Unit

FIGURE S244 - 7

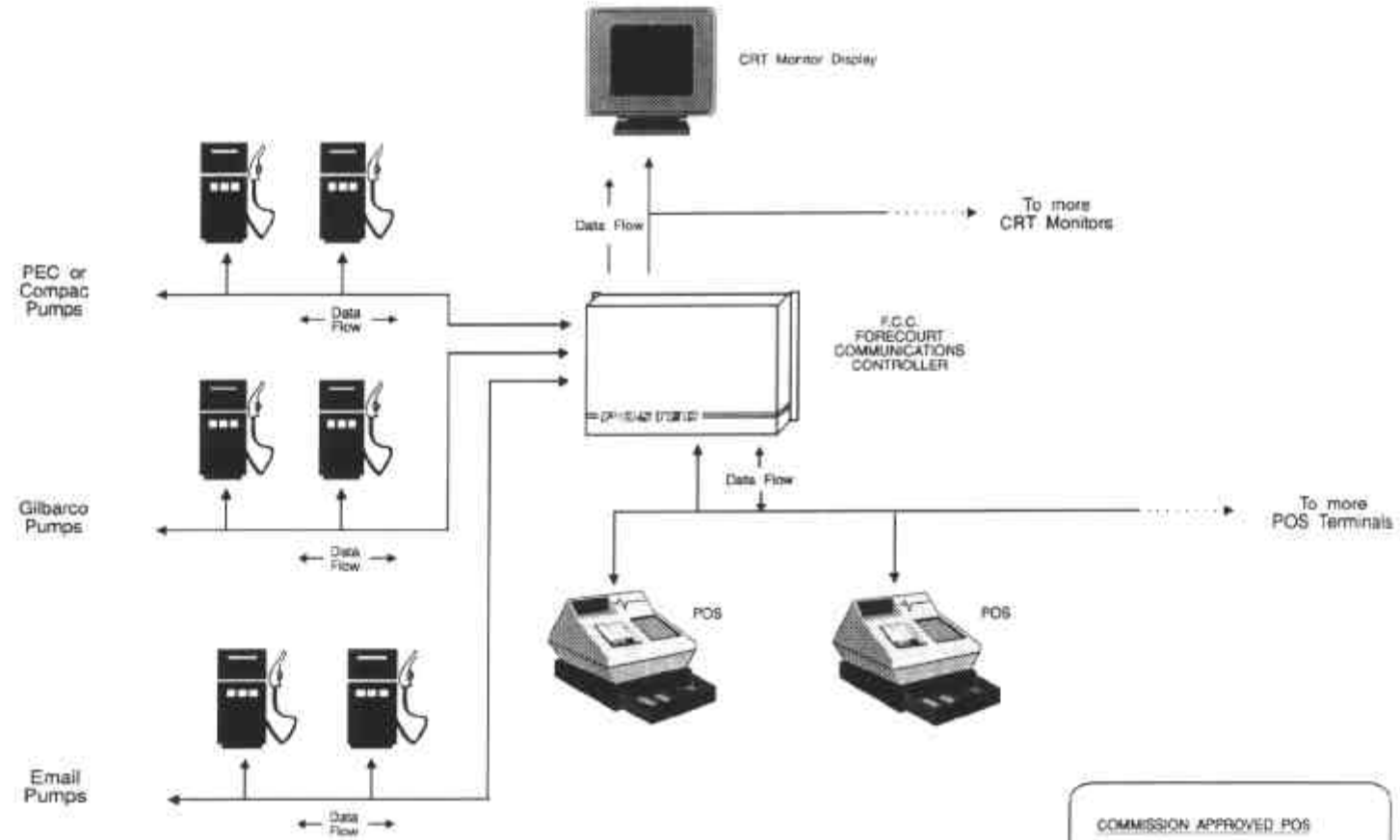


Typical System - Variant 9

FIGURE S244 - 8

Set Technologies Model MPRS IPC Control Console

FIGURE S244 - 9



Typical System - Variants 10, 12 and 13

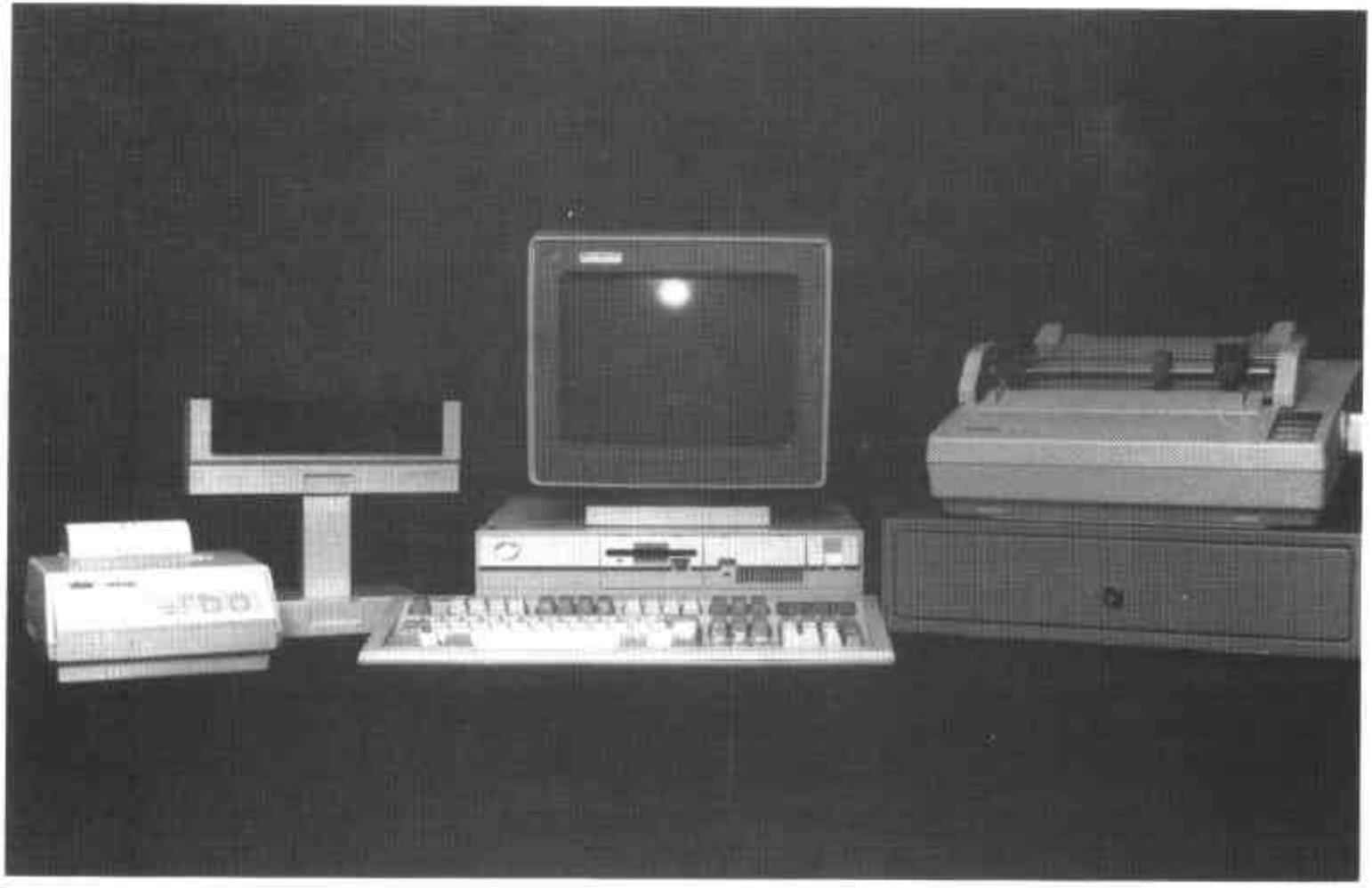
FIGURE S244 - 10

Postec Model 3 FCC Control Unit

FIGURE S244 - 11

Typical IBM PS/2 Series Personal Computer
As a 'PetroPos' POS Terminal

FIGURE S244 - 12

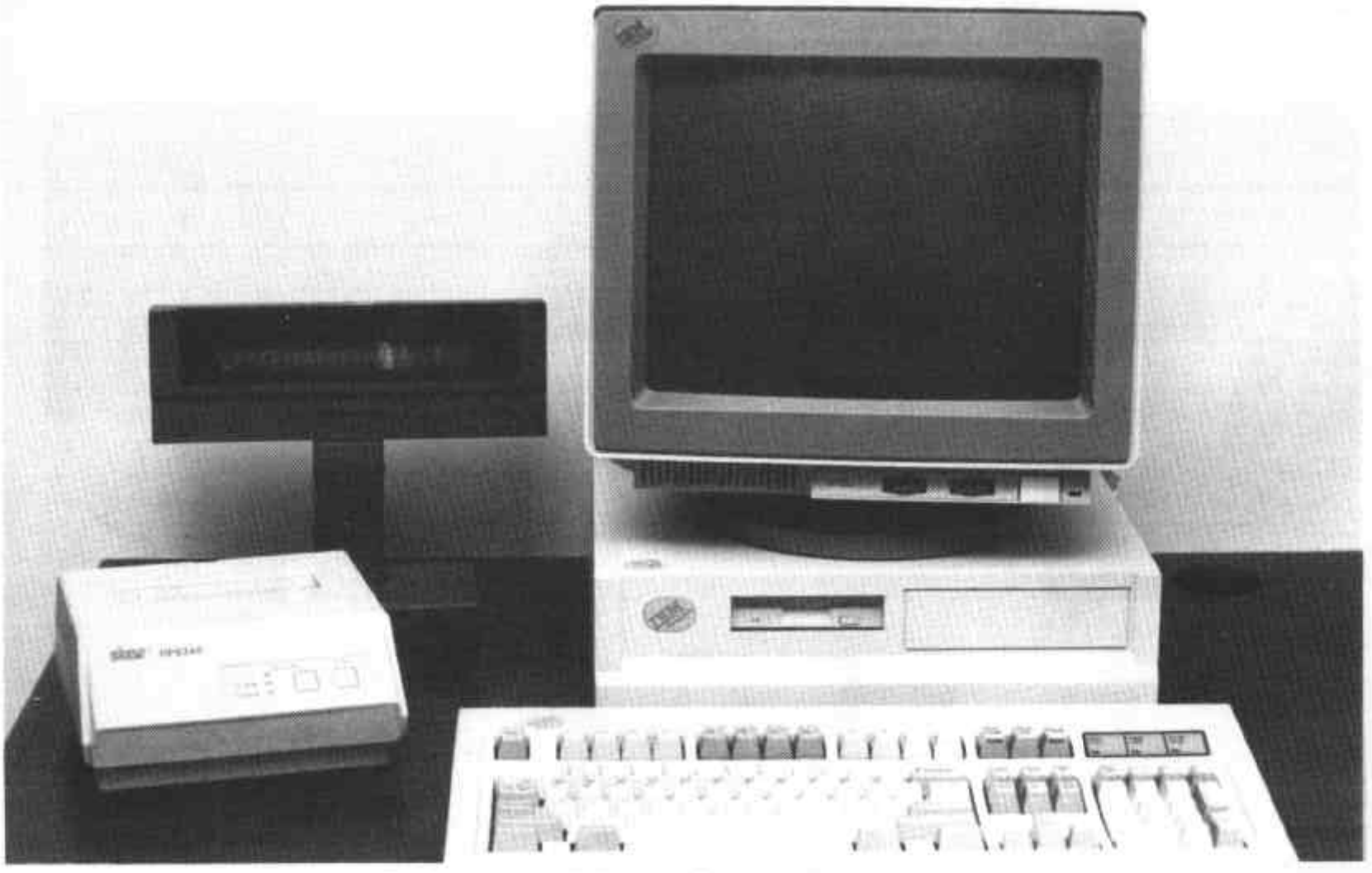


Typical IBM PS/2 Series Personal Computer
As a 'Breeze' POS Terminal

FIGURE S244 - 13

Casio Model SA-1000 Control Console

FIGURE S244 - 14



Typical IBM PS/VP Personal Computer As a 'Breeze' POS
Terminal With Purchaser Display and Printer

FIGURE S244 - 15

Typical IBM 4694 Unit, With Purchaser Display, Printer, Keyboard,
Cash Drawer, IBM 4694 Moniter and Barcode Scanner