Technical Documentation

systematisch gut

Manual for

Changer Series G-26.4000

02/94 vBi
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National Rejectors, Inc. GmbH • Zum Fruchthof 6 • D-21614 Buxtehude • Telefon 04161/70 75 0 • Telefax 04161/70 75 55

Benefit from the Advantages of the NRI Changers G-26.4000 Standard, G-26.4400 SIMPLEX V and G-26.4800 Professional

Increased sales

- o 20-30% increase in sales with a changer
- o Greater change capacity
- o Sales audit information to optimize machine usage
- o Up to 12 different denomination coins accepted (including up to 3 tokens)

Economical auditing

- o Record of
  - sales
  - machine data
- o Data printout
- o Data display
- o Readout of data by a data retrieval unit

Security

- o Reliable validation
- o Low power consumption

10 prices (G-26.4000 Standard)

- o Quick simple price changing

Fast servicing

- o Simple modular construction

Ready for new market requirements

- o Re-programmable validator
  - change of coin acceptance
  - quick response to new frauds
- o Use of a bill validator
- o Use of a talking module
- o Use of a card system

Index:

1. General

The *G-26.4000 Standard, G-26.4400 SIMPLEX V* and the *G-26.4800 Professional* are 3-tube-changers, accepting up to 12 different coin denominations, including up to 3 tokens, between 15 and 33 mm diameter.

Connection between changer and vending machine:

G-26.4000 Standard	-	parallel interface
G-26.4400 SIMPLEX V	-	serial interface
G-26.4800 Professional	-	serial interface

Payout of three different coins:

right tube	-	coins up to 30 mm diameter
left tube	-	coins up to 26.5 mm diameter
middle tube	-	coins up to 23.5 mm diameter

The tubes may store the same denomination coin to increase capacity.

The validator and changer each have their own microprocessor. Both processors communicate via a serial interface.

Using a P.C., the validator is 'self-teaching' enabling reprogramming of coin acceptance.

It is possible to use a card system or bill validator with the changer (see functions 19 and 20).

In addition, you can record data using a data retrieval unit. This data can be used for audit purposes.

By connecting a talking module G-58.0100 to the changer, your vending machine can become more appealing.

The changer series G-26.4800 Professional contains a further version, the so-called 'BDV-Standard'. For this device the keyboard is optional.

With a BDV-Standard device without keyboard several functions, described hereafter, are therefore only possible by the vending machine control.

Note:

When using a G-26.4800 Professional the values, set with function 3,4,15,17 and 19, can be overwritten by the vending machine control. Thus it is preferable to set these functions by the vending machine control.

Differences:

	Professional	**BDV Standard**
external display connectable	yes	no
keyboard with internal display	existing	option
printout of data readout with data retrieval unit	possible	not possible
functions keyboard or vending machine	adjustable by vending machine´ or keyboard	adjustable by vending machine or optional keyboard
connection of bill validator or talking module	possible	only possible with option keyboard

2. Technical Data

Acceptance:	Up to 12 different coin denominations, incl. 3 tokens
Diameter:	15 - 33 mm
Thickness:	1.5 - 3.3 mm
Change capacity:	Approximately 70 coins per tube (depending on thickness)
Dimensions:	Height: 380 mm Width: 137.5 mm Depth: 82.5 mm (89.5 mm when operating the return lever)
Mounting:	Vertical (to within 2°)
Weight:	Approximately 4 kg
Temperature:	Operation: 0°C - +55°C (Ambient temperature of the unit) Storage: -30°C - +75°C
Humidity:	Maximum 90%
Component spec:	DIN 40 040 KSF
Power supply:	115/230 Volts (European Standard) 110/220 V A.C., 120/240 V A.C., 24 V A.C and 24 V D.C.
Power consumption:	5 VA standby, 20 VA max.
Switching:	For A.C. current max. 240 Volts, 2.5 A, 600 VA For D.C. current max. 24 Volts, 50 mA short-circuit
Noise immunity:	According IEC 801-4, Burst 2500 Volts
Insulation:	1.2 kV to VDE 0700
	The unit conforms with the technical specification of the regulation 1046/1984 of high frequency devices for ISM or similar purposes.

3. Electronic Validator G-10.4000/5

General Information

The G-10.4000/5 is a microprocessor-controlled validator, which includes a serial interface for the data transfer to the control unit.

Measurements

When a coin passes the measurement area within the validator, the coils measure the coin characteristics of alloy, thickness, diameter and embossing. The measured analog values are recorded and processed to 6 digital values.

For coin validation 6 parameters are available:

NFP = Phase shift measurement with low frequency
GRO = Diameter measurement with upper sensor
GRU = Diameter measurement with lower sensor
NFA = Amplitude measurement with low frequency
RCH = Calculated value
HFP = Phase shift measurement with high frequency

Coin channels

The inserted coin generates one value for each of the 6 parameters. The validator checks, whether this value lie within its programmed limits, i.e. within the coin channel.

Within each channel the limit values for one coin denomination can be set. The 12 coin channels of the G-10.4000/5 enables the coin acceptance of a maximum of 12 different coin denominations. This means coins, whose characteristics correspond. Thus this also refers to tokens. Based on this there are two coin channels programmed instead of only one in case of the acceptance of an old and new coin denomination (for instance 0.10 £ old and 0.10 £ new).

Alternatively it is possible to programme a channel with 'normal bandwidth' and with 'narrow bandwidth' for the same coin denomination.

To each coin channel one coin denomination can be assigned.

The G-10.4000/5 can validate up to a maximum of 8 different coin values. The coin channels 9 to 12 are linked up with the coin channels 1 to 8 and thus a coin value is assiged to these coin channels.

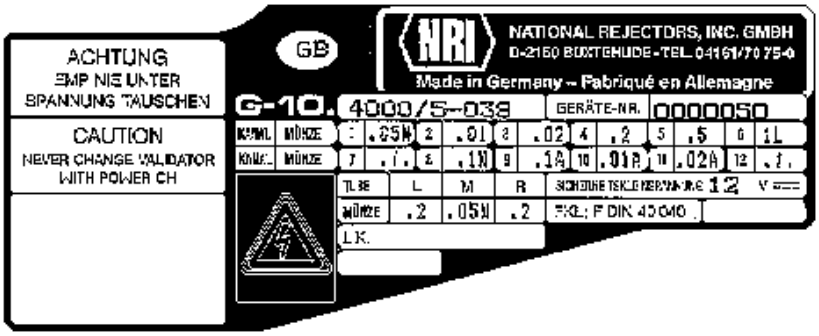
Linked channels always accept the same coin value.

Example I:

Example I: Label of a G-10.4000/5 with German coin acceptance.

This example shows the the coin channels 3 and 10, 4 and 11 as well as 5 and 12 are linked together. The abbreviation "E" markes the channels with 'narrow' bandwidth. So for the same coin denomination two channels are programmed, one with 'normal' and the other with 'narrow' bandwidth.

Example II



Example II: Label of a G-10.4000/5 with English coin acceptance.

The example shows that the channels 2 and 10, 3 and 11 as well as 8 and 9 are linked together. Different coin denominations are accepted, however, they have the same coin values.

Individual coin inhibit

It is possible to inhibit each of the channels 2 to 12.

The channels 2 to 8 can be inhibited via keyboard of the changer (see function 15).

If one of the channels 2 to 8 is inhibited via the keyboard of the changer, the assigned channel, accepting the same coin value, is simultaneously inhibited.

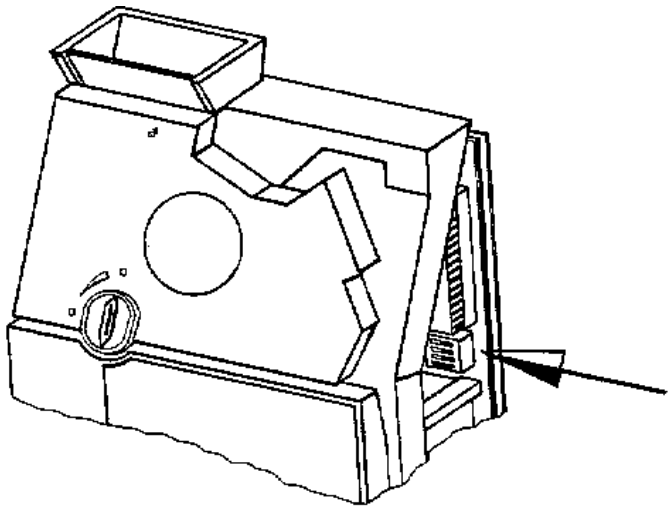
Example:

Programmed coin value within channel 5 (narrow bandwidth) : 1.00 £
Programmed coin value within channel 12 : 1.00 £

Due to the fact that channel 5 and 12 are linked together if the coin acceptance is inhibited within channel 5, channel 12 is also inhibited.

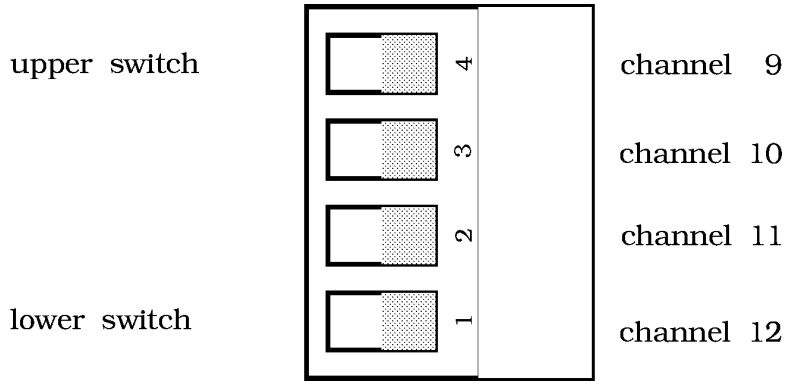
In order to inhibit the coin acceptance of channels 9 to 12 a 4-pole Dual-In-Line switch is provided on the pc-board of the G-10.4000/5 (see figure).

To get free access to the Dual-In-Line switch it is necessary to remove the G-10.4000/5.



Position of the Dual-In-Line switch on the CPU pc-board of the validator.

o The channels 9 to 12 are assigned to the 4 switches as follows:



* By moving the appropriate switch in the upper position ('open') the channel is inhibited.

By using the individual coin inhibit of channels 9 to 12 it is possible, for instance,

- to increase the slug rejection by inhibiting the channels with normal bandwidth for changers with German coin acceptance

- to inhibit the coin acceptance of old coins, if they should no longer be accepted for changers with English coin acceptance.

Coin sorting

The validator is able to sort coins into 3 different tubes or into the cashbox. The assignment of the coins into tubes is done by the channels and is independent from the coin value.

During the sorting procedure the sorting gates are activated dependant on the time the inserted coin requires to pass through the validator. Thus a fast coin requires a short sorting time. This individual activation of the sorting gates increases considerably the sorting security.

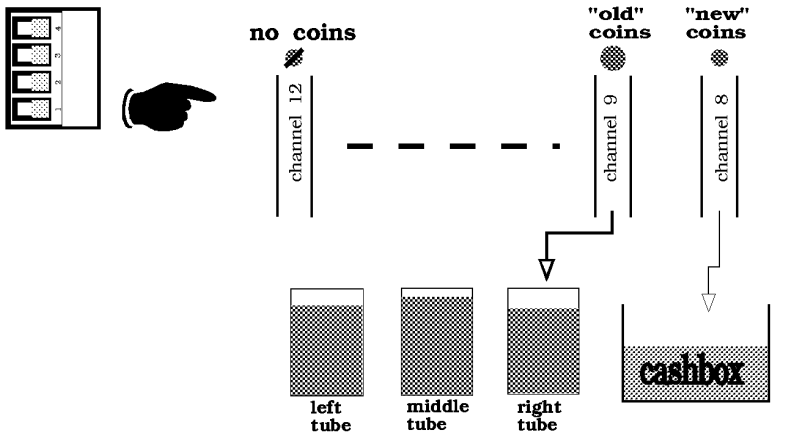
Switch 1 in the lower position of the 4-pole Dual-In-Line switch has two functions. By using this switch you can activate the sorting function (see page 11).

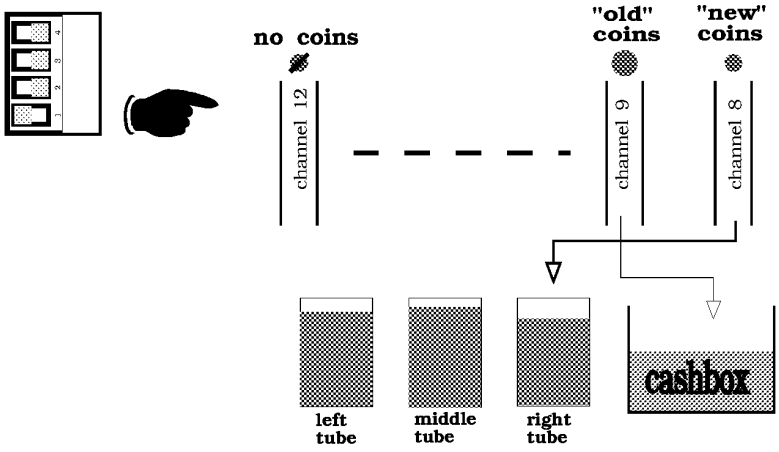
The **sorting function** - special function for validators with English coin acceptance - can be activated by using switch 1,

- if within channel 12 no coin is programmed,
- if the coin denomination, accepted by channel 9, is guided into the right tube

* Move switch 1 on the 4-pole Dual-In-Line switch in the upper position

o Now coins accepted within channel 9 are no longer guided into the right tube, but coins accepted within channel 8 are guided into the right tube.





Attention: If within channel 12 a coin is programmed, the coin denomination within channel 9 must not be sorted into the right tube as during inhibit of channel 12 (using switch 1) the sorting changes from channel 9 to channel 8.

NRI Programming Unit

NRI offers a programming station by which you can change the settings according to your requirements.

By using the NRI programming station for validators series G-10.4000/5 you can

- check the proper function of the connected validator,
- if necessary, determine the reason for a fault
- change the programming
- display the actual measured values of an inserted coin
- programme the coin channels by inserting special coins
- change the validator setting in order to adapt it to the desired vending machine.

A programming station for the G-10.4000/5 includes the following units:

G-55.0287 adapter (for AT computers) with 9-pin plug
or
G-55.288 adapter (for XT computers) with 25-pin plug
G-19.0577 tester
G-19.0584 test stand
93 00 631 software 'KUNEMP', deliverable on 5.25" or 3.5" disk

The software 'KUNEMP' can also be used for the validator series G-18.3000.

You can connect the NRI programming station to an IBM personal computer or compatible with a RS232 interface.

4. Transport and Connection of Unit

Transport

- o Before transport please empty all tubes
- o Transport and storage in factory packing prevents damage
- o No transit fixings required

Attention

Components behind validator are at line voltage.

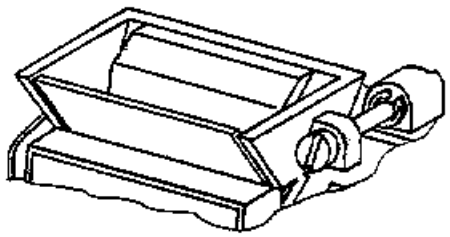
Always unplug changer **before** removing validator.
Always refit the safety screw.

Prior to installation

- * Check that changer is correct for your machine
- * Check operating voltage and change if necessary (switch S1 on interface module) (Only units for 110.. 240 Volts).

Installation

- o Connecting cable to vendor must not yet be plugged
- * Mount changer
- * Unfasten safety screw (see figure)



- * Remove validator
- * Secure changer with screws
- * Refit validator
- * Fix safety screw
- * Connect non-fused green/yellow earth lead
- * Plug to machine
- * Check that motors are in standby state (key '+' twice)
- * Fill change tubes with at least 20 coins each (see 'Filling Change Tubes' page 18)

5. Description of Operating Modes

Note: The functions described hereafter can be set within units including the latest software. If necessary, please contact NRI.

Mode	Reason	Select
o Inventory Emptying tubes	- to relocate changer - servicing - inventory - transport	01
o Price setting (G-26.4000 Standard)		02
o Machine number		02AU
o Acceptance limit All coins are inhibited once acceptance limit is reached	- prevents misuse as changemaker	0301
o Change limit Limited change given **Only effective within mode 'multi-vend'**	- maintains change store	0302
o Setting of tokens	Setting value of up to three different tokens possible.	0303
o Single vend Change given after each vend automatically	Coins inserted for each vend. Changer inhibits coin acceptance, when credit exceeds highest price.	04
o Multi-vend Change after vends and reject operation	More than one vend may be made without inserting coins for each.	04
o Committed to vend Vend must be made before change given	Prevents misuse as changemaker	04
o Uncommitted to vend Change returned at any time		04

Mode	**Reason**	**Select**
o External reset (G-26.4000 Standard) Vending machine provides reset signal		04
o Internal reset (G-26.4000 Standard) No reset signal from vending machine	Price pulse 75 up to 100 msec	04
o Reset via 6 (G-26.4000 Standard)	Determined by machine. Only effective in connection with 'external reset'.	04
o Reset via 8 (G-26.4000 Standard)	Determined by machine. Only effective in connection with 'external reset'.	04
Lamp 'exact change' lights up (unchangeable)	Customer can buy, however, he possibly has to renounce his residual money. Money which cannot be paid back, will remain as credit.	

Note:

- o The 'exact change' lamp now solely depends on the 'tube empty' condition, set on function 22.
- o When coins are still in the tubes, they are paid out even in case of 'tube empty' display.
- o Residual credit, due to insufficient change, remains.
- o Change is paid back in lowest number of available coins.

o Blocking of coins when 'tube empty' (unchangeable)	Coins set by function 17 are not accepted when the 'tube empty' condition is fulfilled.	04
o Display of time	When credit = 00.00 the time can be displayed.	0401

Mode	Reason	Select
o **Display of credit in 'single vend'**	Prior to payout of residual money, credit is displayed for 2.5 seconds.	0401
o **Delayed reset**	After reset, price line remains active for 300 msec.	0401
o **Cigarette mode**	Activation of the cigarette mode is independent from validator setting.	0401
o **Ecological function**	Discount possible, if no cup is used.	0401
o **Data display**	Audit purposes	
- vending machine data		05
- sales data		06
- vend / sales data		08-09
- vend sales data per price line (G-26.4000 Standard)		10-11
- coin and tube data		12
o **Diagnostics**	Servicing	13
o **Time/date setting**		14
o **Single coin inhibit**	Any coin may be inhibited	15
o **Printout format**	Short or full data	16
o **Coins to be inhibited**	Applicable during 'tube empty' condition (function 22)	17
o **Communication with audit unit**		18
o **Communication with card system**		19
o **Communication with bill validator**		20
o **Communication with talking module**		21
o **Setting of 'tube empty' condition**		22

6. Initial Operation

* Check
  - supply voltage
  - vending machine compatibility
  - vending machine interface

* Connect earth wire to housing of vendor.
  Good metallic contact is absolutely necessary.

* Connect changer

* Switch on
  - external display shows 00.00 or time or residual credit

* Check operating modes are correctly set (function 04)

* Check that motors are in standby state (key '+' twice)

* Fill each tube with at least 20 coins (see 'Filling Change Tubes' page 18)

* Check setting of time and date (function 14)

* Set prices (G-26.4000 Standard) and machine number (function 02)

* Check maximum change and credit (function 03)

* When tokens are accepted, check correct setting (function 0303)

* Check single coin inhibit (function 15)

* Check coin acceptance and correct credit display

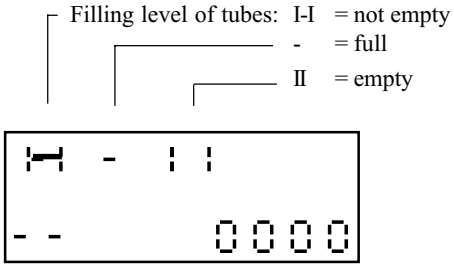
* Test vend and check correct change dispenser

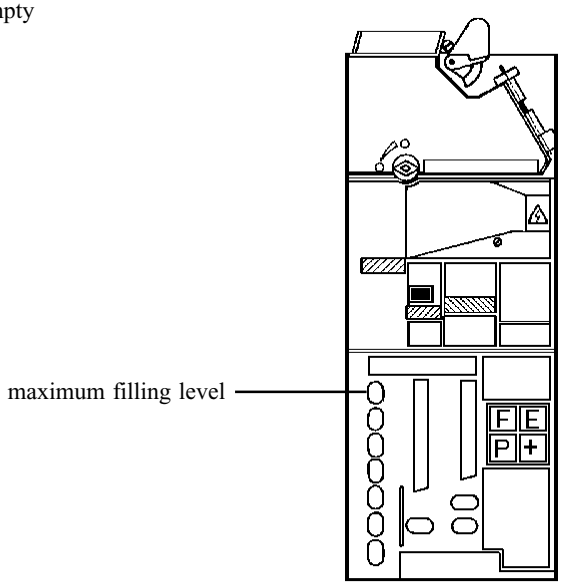
Changer is now ready for use.

7. Filling Change Tubes

It is preferable to fill tubes as follows:

- o Unit in standby mode
- * Press '+' key
- * Insert coins
- * Press '+' key
- o Possibly existing credit remains unchanged.





Note:

- Before starting to fill tubes cashbox should be emptied, as coins guided into cashbox are not counted.

- Even when keyboard is blocked filling of change tubes by pressing '+' key is possible.

- Inserted coins will be audited.

- All coins are accepted, including the coins inhibited by function 15.

Additionally it is possible to fill tubes using function 1305 (see'Diagnostics').

8. Display of Line Conditions

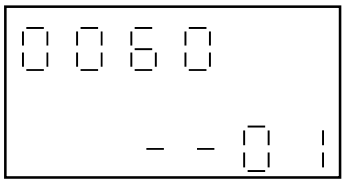
G-26.4000 Standard
(Remedying faults within vending machine)

o Changer in standby

* Key '+'

* Key 'P'

o On display appears for example:



Where:

0060 = price 60 p
01 = selection line 1 active

The price of the selected product appears also on the external display. If another product is selected the display shuts down temporary so that even if the price is the same the change to another selection line is displayed.

For line conditions following displays are possible:

-6 = line 6 active (coin inhibit)
-8 = line 8 active (reset)
-9 = line 9 active (tube empty)
01 = selection line 1 active
.
.
06 = selection line 6 active
.
.
10 = selection line 10 active

* Key 'P'

o Changer returns to standby

9. Test Vends

G-26.4000 Standard

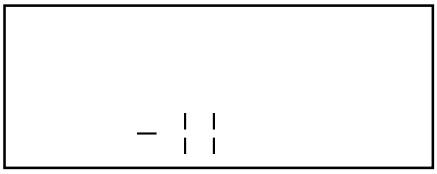
o Changer in standby

* Key '+'

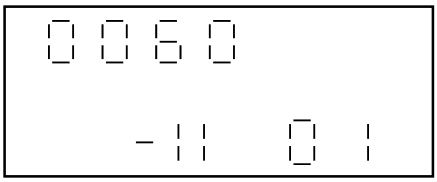
* Key 'P'

* Key 'E'

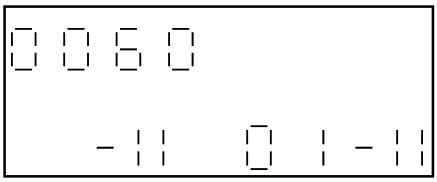
o On display appears:



* If you select now for instance selection 1, the display will indicate:



This means that the vend operation for selection 1 (price: 60 p) is now initiated. When the vending machine has finished the vend the following display is obtained:



If no further test vend is initiated, the display shows again the status indication for test vends (first figure on this page) after 10 seconds. After approximately 40 seconds the changer returns to standby.

The number of test vends is counted and can be displayed within function 08 (vend data) under 0903. Also the printout includes the number of test vends (second number under 'cycles').

* Key 'P'

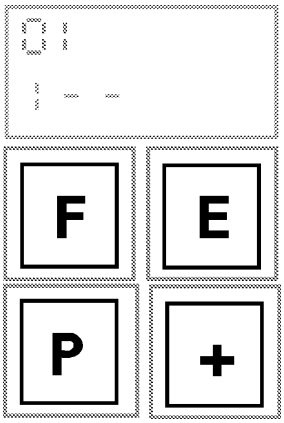
o Changer returns to standby.

10. Operating Keys

Keys

F = Function select / Return to standby
E = Execute function / Rapid increase of values
P = Programming / Return to standby
+ = Increase of values

Display shuts down approximately 40 msec after last use of key.
Continuous depression of key gives rapid indexing forward.



Protection against unauthorized or inadvertent programme changes:

* Switch over switch on CPU pc-board (protected = left or upper plug position)

Note: Units with a model number higher than G-26.4000/4 have an additional switch on the interface module. This switch must be in position 'keyboard enabled'.
When keyboard is blocked the following functions are possible:

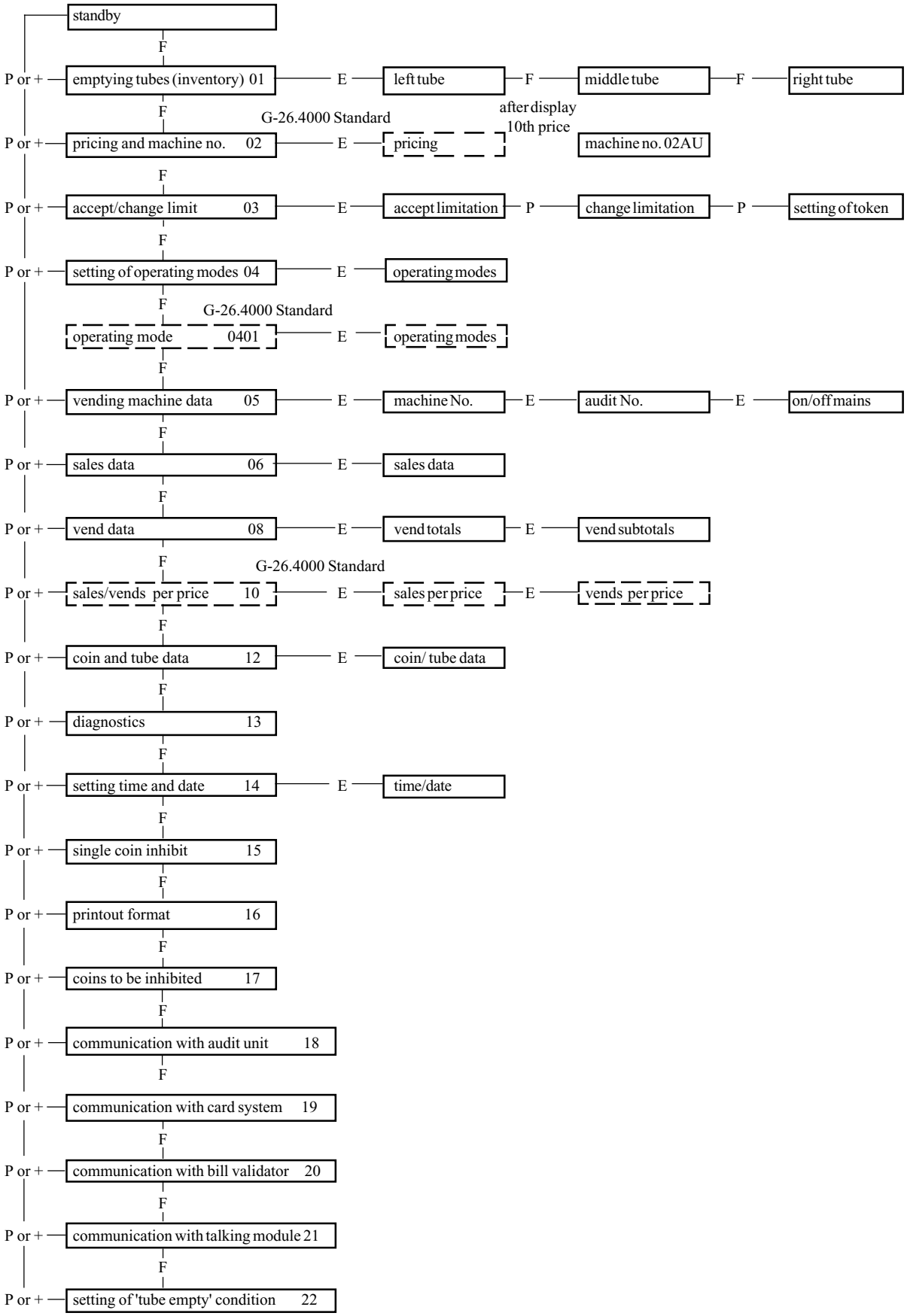
- function 01 (inventory)

Referring to the G-26.4800 Professional this function can be inhibited by the vending machine. Thus function 01 can only be executed when either the keyboard is enabled or by the vending machine.

- filling of tubes
- display of line conditions
- functions 19 and 20

All other functions are selectable. However, changes are not possible.

11. Flow Chart



12. Operation

Function 01 = Emptying tubes (Inventory)

Action	Key	Display
* Select function	F	01
* Inventory left tube	E	01 I—
* Payout coins singly	E once	
* Payout coins rapidly	E continuously	
* Inventory middle tube	F	01 -I-
* Payout coins singly	E once	
* Payout coins rapidly	E continuously	
* Inventory right tube	F	01 —I
* Payout coins singly	E once	
* Payout coins rapidly	E continuously	
* Return to base function	F	01
* Return to standby	P or +	shuts down

Function 02 = Pricing and Machine Number
G-26.4000 Standard

Action	Key	Display
* Select function	F until 02 appears	02
* Display price 1	E	0201 00.05
Assuming price 1 was displayed		
* Display prices 2 to 10	P sequentially	
* Increase by lowest coin value	+ once	0201 00.06
* Multiple increase by lowest coin value	+ continuously	0201 00.30
* Rapid increase (100 times lowest coin value)	E	0201 05.30
* Setting lower price	E and + simultaneously until 00.00 appears, then set price	
* Programming or price	P	0202 00.10

After display of price 10

Note: The machine number cannot be changed, if a data retrieval unit is used.

* Display machine number	P	02AU 001234
* Change machine number (+ 1)	+	02AU 001235
* Change machine number (+ 100)	E	02AU 001335
* Setting of 5th and 6th digit	E until desired number appears	02AU 101335
* Return to base function	P	02
* Return to standby	P or +	shuts down

Function 02 = Machine Number
G-26.4800 Professional and G-26.4400 SIMPLEX V

Note: The machine number cannot be changed, if a data retrieval unit is used.

Action	Key	Display
* Select function	F until 02 appears	02 000000
* Display machine number	P	02AU 001234
* Change machine number (+ 1)	+	02AU 001235
* Change machine number (+ 100)	E	02AU 001335
* Setting of 5th and 6th digit	E until desired number appears	02AU 101335
* Return to base function	P	02AU
* Return to standby	P	shuts down

Function 03 = Acceptance and Change Limitation and Setting of Tokens

Action	Key	Display
* Select function	F until 03 appears	03
* Display acceptance limit	E	0301 00.00
* Increase by lowest coin value	+ once	0301 00.01
* Increase by multiple of lowest coin value	+ continuously	0301 01.00
* Rapid increase (100 times lowest coin value)	E	0301 06.00
* Display change limit	P	0302 00.00
* Increase by lowest coin value	+ once	0302 00.01
* Increase by multiple of lowest coin value	+ continuously	0302 00.50
* Rapid increase (100 times lowest coin value)	E	0302 01.50
* Reduce to lower amount	E and + simultaneously until 00.00 appears, then to setting required	

Note: If the acceptance and change limitation is set to 00.00, the appropriate limit has no action.

Function 03 continued next page

Function 03 = Acceptance and Change Limitation and Setting of Tokens

Action	Key	Display
* Display of set token 1	P	0303 00.10
* Increase by lowest coin value	+ once	0303 00.15
* Increase by multiple of lowest coin value	+ continuously	0303 00.40
* Rapid increase (100 times lowest coin value)	E	0303 05.40
* Display of set token 2 Changes as described above	P	0304 01.00
* Display of set token 3 02.00 Changes as described above	P	0305
* Return to base function	P	03
* Return to standby	P or +	shuts down

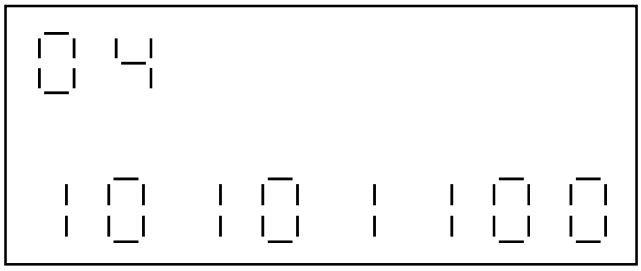
Note: For each vend only one token is accepted, i.e. after insertion of a token the unit goes automatically into mode 'committed to vend'.Further insertion of coins is possible.

Function 04 = Operating Modes

Action	Key	Display
* Select function	F until 04 appears	04
* Display of setting (see next page)	E	04 10000100
* Select digit to be changed	P sequentially	04 10000100
* Change setting	+	04 11000100
* Programme new setting	P	04 11000100
* Display of next setting (G-26.40000 Standard)	F	0401 00000000
* Change setting - as described above -		
* Return to base function	F	0401
* Return to standby	P or +	shuts down

Function 04 = Operating Modes

Example: G-26.4000 Standard



= not yet used

1 = Blocking of coins when 'tube empty' (unchangeable)

1 = 'Exact change' lamp lights up (unchangeable)

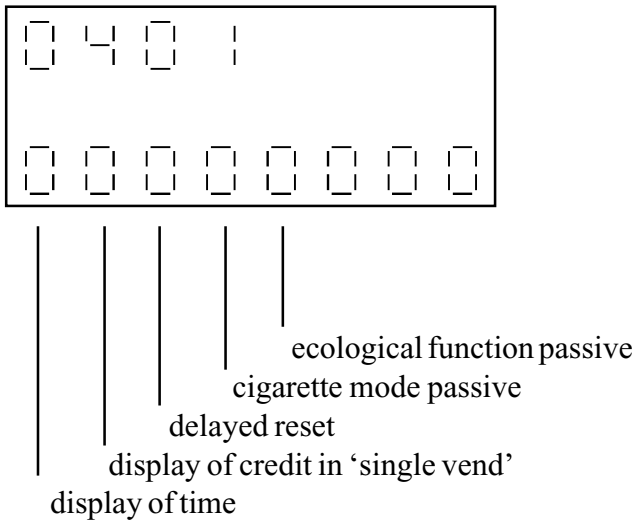
1 = reset line 6)
0 = reset line 8) G-26.4000 Standard

1 = external reset)
0 = internal reset) G-26.4000 Standard

1 = committed to vend
0 = uncommitted to vend

1 = single vend
0 = multi vend

Function 0401 = Operating Modes
G-26.4000 Standard



By inserting a '1' following functions are selected:

Display of time
The time can be displayed on the credit indicator by setting this bit to '1'. Otherwise 00.00 appears on the display.

Note: If the time display function is programmed within the electronic validator, then function 0401 will have no effect on the time display.

Display of credit in 'single vend'
Prior to payout of residual money in 'single vend' the existing residual credit is displayed for approximately 2.5 seconds. Then payout starts.

Delayed reset
After reset, price line remains active for approximately 300 msec.

Cigarette mode
If the value in the validator is '0' it is possible to select a time of 4 seconds, by setting the fourth digit to '1'. However, if a time of > 0 is programmed in the validator, the set value of the validator is valid.
Please note that the setting of function 0401 has higher priority than the validator setting.

Ecological function (only valid for G-26.4000 4-price and 10-price)
If the 4th price line of the changer is connected to the key 'own cup', customers who use their own cup will get a discount of the amount set as the 4th price.

Function 05 = Vending Machine Data

Action	Key	Display
* Select function	F until 05 appears	05
* Display identification number	E	0501 1335
* Display audit number (with this identification no.)	E	0502 0120
* Display interruptions to supply (since last printout)	E	0503 0001
* Return to base function	F	05
* Return to standby	P or +	shuts down

Function 06 = Sales Data

Action	Key	Display
* Select function	F until 06 apppears	06
Since last printout:		
* Cash to cashbox	E	0601 90.75
* Cash to tubes	E	0602 36.45
* Change paid out	E	0603 15.75
* Actual level left tube (value)	E	0604 3.45
* Actual level middle tube (value)	E	0605 12.80
* Actual level right tube (value)	E	0606 5.20
Since last printout:		
* Left tube inventories	E	0607 3.20
* Middle tube inventories	E	0608 11.80
* Right tube inventories	E	0609 5.70
* Credit to GLOBO card	E	0610 43.00
* Receipts from bill validator	E	0611 30.00
* Erased residual credit	E	0612 00.19
* Return to base function	F	06
* Return to standby	P or +	shuts down

Function 08 = Vend / Sales Data

Action	Key	Display
* Select function	F until 08 appears	08
Since installation:		
* Total sales	E	0801 15.50
* Total vends	E	0901 10
Since last printout:		
* Total sales	E	0802 3.50
* Total vends	E	0902 3
* Display of number of free vends	E	0903 2
* Return to base function	F	08
if a GLOBO Card system is connected:		
* Total sales with GLOBO Card	E 4 times	0804 55.00
* Number of vends with GLOBO Card	E	0904 75
* Discount by GLOBO Card System	E	0805 12.50
* Return to base function	F	08
* Return to standby	F	shuts down

Function 10 = Vend/Sales Data per Price Line
G-26.4000 Standard

Action	Key	Display
* Select function	F until 10 appears	10
* Sales per price line to required price	E sequentially	1008 09.30
* Vends per price line to required price	E sequentially	1108 930
* Return to base function	F	10
* Return to standby	P or +	shuts down

Function 12 = Coin and Tube Data

Action	Key	Display
* Select function	F until 12 appears	12
* Coins in left tube (quantity)	E	1201 20
* Coins in middle tube (quantity)	E	1202 41
* Coins in right tube (quantity)	E	1203 14
Since last printout:		
* Coins accepted in left tube	E	1204 165
* Coins accepted in middle tube	E	1205 298
* Coins accepted in right tube	E	1206 119
* Number of accepted coins : coin 1	E	1207 305
* Number of accepted coins : coin 2	E	1208 114
* Number of accepted coins : coin 3	E	1209 98
"		
"		
* Number of accepted coins : coin 8	E	1214 0
* Return to base function	F	12
* Return to standby	P or +	shuts down

Function 13 = Diagnostics

Action	Key	Display
* Select function	F until 13 appears	13
* Select 'Motors to service state'	E	1301
* Execute (see 'Remedying Faults')	E	1301 —-
* Select 'Motors to standby state'	E	1302
* Execute (see 'Remedying Faults')	E	1302 |||
* Select 'Take over data block'	P	1303
* Access to data block	E	1303 —2.50
Either		
* Take over data block **and erase credit**	+	1303 00.00
or		
* Take over data block **and retain credit**	P	1303 2.50

Function 13 continued next page

Function 13 = Diagnostics

Action	Key	Display
* Select 'Printout of data block'	P	1304
* Printout	E	1304

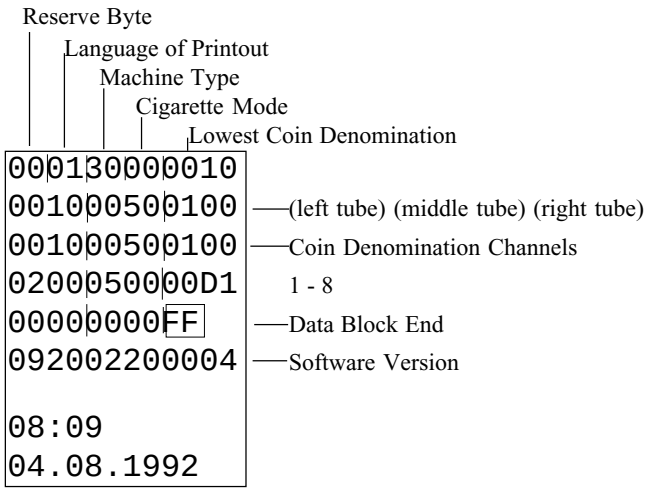
Connect printer and key 'PRINT' on printer
(Example of printout : see below)

* Select 'Filling of tubes through validator'	P	1305 2.50
* Execute	E	1305 00.00

Existing credit is erased. Now insert coins to fill tubes.
Inserted coins are counted but not evaluated as credit.

* Select 'Display of line conditions' **(G-26.4000 Standard)**	P	1306
* Execute (Example: vend line 1 active)	E	1306 01
* Return to base function	F	13
* Return to standby	F	shuts down

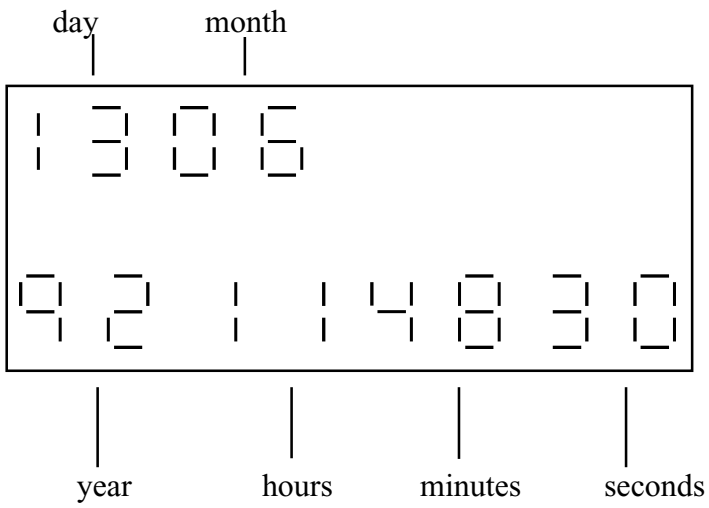
Example of printout:



Function 14 = Setting Time and Date

Action	Key	Display
* Select function	F until 14 appears	14
* Time and date (example: 13.06.92 date 11.48 30 time)	E	1306 92114830
* Select digit to be changed	P sequentially	1306 92114830
* Change digit	+	1306 92124830
* Programme digit	P	1306 92124830
* Return to base function	F	14
* Return to standby	F	shuts down

Function 14 = Setting Time and Date



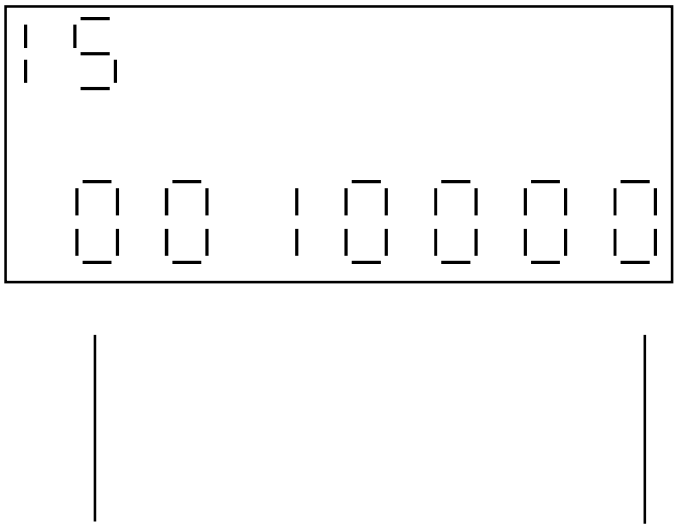
Seconds unit can only be set to zero.

Flashing digit may be changed.

Function 15 = Single Coin Inhibit

Action	Key	Display
* Select function	F until 15 appears	15
* Display of setting (see next page)	E	15 0101000
* Select digit to be changed	P sequentially	15 0101000
* Change digit	+	15 0100000
* Programme change	P	15 0100000
* Return to base function	F	15
* Return to standby	F	shuts down

Function 15 = Single Coin Inhibit



coin 8th channel coin 2nd channel

0 = coin accepted
1 = coin inhibited

Acceptance of lowest denomination coin cannot be inhibited.

Flashing digit may be changed.

Function 16 = Printout Format

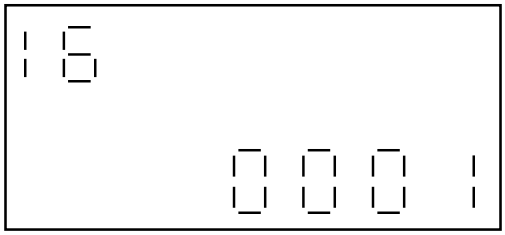
Action	Key	Display
* Select function	F until 16 appears	16
* Display of setting (see next page)	E	16 0000
* Select digit to be changed	P	16 0000
* Change digit	+	16 0001
* Programme change	P	16 0001
* Return to base function	F	16
* Return to standby	P or +	shuts down

Printout:

* Connect printer
* Press PRINT key

In the case of a fault condition, printout is possible even whilst on the internal display four points are flashing.

Function 16 = Printout Format
G-26.4000 Standard



The machine data is always printed

0 = Sales data is printed
1 = Sales data is not printed

0 = Vend/sales data per price line is printed
1 = Vend/sales data per price line is not printed

0 = Time is printed
1 = Time is not printed

0 = Audit data is erased after printout.
1 = Audit data is only erased after initialization with a data retrieval unit for service (see chapter 19).

This digit cannot be changed by the keyboard. After readout with a data retrieval unit the digit is set to ‘1’, whilst it is set to ‘0’ after initialization with a data retrieval unit for service.

```
MACHINE:111
15.06.1989

AUDIT0: 19
AUDIT1:  1

TOTAL SALES

S   208.00
C      141
==========
OFF/ON
TO CASHBOX
     10.00

      0.00

TO TUBES
     58.10
     10.00

CHANGE
     15.60
     11.50
      0.00

TUBE STORE
     16.70

SALES
     24.30

CYCLES
        20
         0
..........
CASHLESSCARD

SALES
      0.00

CYCLES
         0

DISCOUNT
      0.00

CASH TO CARD
      0.00
==========
```

money inserted by customers to cashbox

receipts from bill validator

money inserted by customers to tubes

money inserted during tube filling (operator)

change paid out

money paid out during inventory

erased remaining credit

number of test sales

This section is printed out only if a card system is operating.

turnover using GLOBO CARD

number of vends using GLOBO CARD

credit to cards (reloading cards)

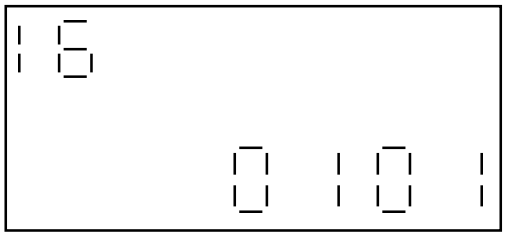
```
SALES/VENDS

S1   0.20
C1   2
S2   3.00
C2   6
S3   5.00
C3   5
S4   14.00
C4*  7
S5   0.00
C5   0
S6   0.00
C6   0
S7   0.00
C7   0
S8   0.00
C8   0
S9   0.00
C9   0
S10  0.00
C10  0

11:39
25.10.1989
```

Discount by ecological function

C4* = discount by ecological function.
When using the ecological function, the printout includes a star behind C4. The star indicates that the amount behind the abbreviation represents a discount and not a sale.

Function 16 = Printout Format

G-26.4800 Professional/G-26.4400 SIMPLEX V



The machine data is always printed

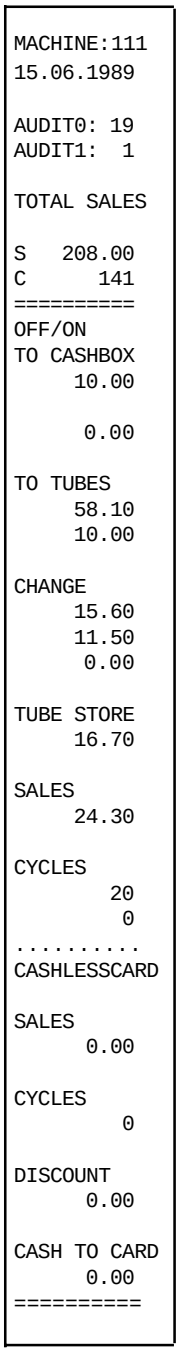
0 = Sales data is printed
1 = Sales data is <u>not</u> printed

0 = no influence
1 =

0 = Time is printed
1 = Time is <u>not</u> printed

0 = Audit data is erased after printout.
1 = Audit data is only erased after initialization by a data retrieval unit for service (see chapter 19).

This digit cannot be changed by the keyboard. After readout with a data retrieval unit the digit is set to ‘1’, whilst it is set to ‘0’ after initialization with a data retrieval unit for service.



```
MACHINE:111
15.06.1989

AUDIT0: 19
AUDIT1:  1

TOTAL SALES

S   208.00
C      141
==========
OFF/ON
TO CASHBOX
     10.00

      0.00

TO TUBES
     58.10
     10.00

CHANGE
     15.60
     11.50
      0.00

TUBE STORE
     16.70

SALES
     24.30

CYCLES
        20
         0
..........
CASHLESSCARD

SALES
      0.00

CYCLES
         0

DISCOUNT
      0.00

CASH TO CARD
      0.00
==========
```

money inserted by customers to cashbox

receipts from bill validator

money inserted by customers to tubes

money inserted during tube filling (operator)

change paid out

money paid out during inventory

erased remaining credit

number of test sales

This section is printed out only if a card system is operating.

turnover using GLOBO CARD

number of vends using GLOBO CARD

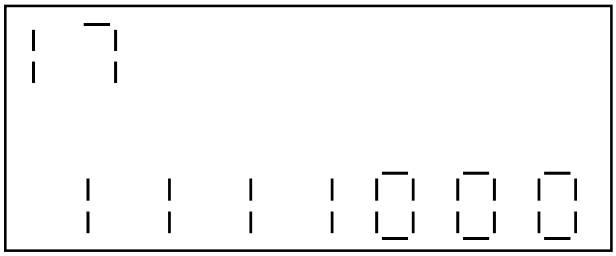
credit to cards (reloading cards)

Function 17 = Coins to be inhibited

The coins set on this function are inhibited when the 'tube empty' condition applies. The 'tube empty' condition is set on function 22.

Action	Key	Display
* Select function	F until 17 appears	17
* Display setting (see next page)	E	17 1111000
* Select digit to be changed	P sequentially	17 1111000
* Change digit	+	17 1110000
* Programme change	P	17 1110000
* Return to base function	F	17
* Return to standby	P or +	shuts down

Function 17 = Coins to be inhibited



coin 8th channel coin 2nd channel

Acceptance of lowest denomination coin (1st channel) cannot be inhibited.

Flashing digit may be changed.

Function 18 = Communication with Audit Unit
G-26.4800 Professional and G-26.4400 SIMPLEX V

An audit unit, alreday integrated within the machine control, is able to communicate with a G-26.4400 SIMPLEX V and G-26.4800 Professional.

Attention: A '1' may only be programmed, if an audit unit is available.

Action	Key	Display
* Select function	F until 18 appears	18
* Display of setting	E	18 0
* Change digit	+	18 1
* Return to base function	P	18
* Programme change	P or +	shuts down

Note: 0 = no audit unit available
1 = connected with audit unit

The fault code 32 appears, if

- audit unit switched off
- vendor cable possibly is defective
- no audit unit connected, however, a '1' is programmed

In the case of a fault, coin acceptance is inhibited and no vends possible.

Function 19 = Communication with a Card System
G-26.4000 Standard and G-26.4800 Professional

Attention: A '1' may only be programmed, if a credit card system is connected to the changer.

When you connect a GLOBO Card system, please refer to the installation instructions for the GLOBO Card system.

Action	Key	Display
* Select function	F until 19 appears	19
* Display setting	E	19 0
* Change setting	+	19 1
* Return to base function	P	19
* Programme new setting	P or +	shuts down

Note: 0 = no card system available
1 = card system connected

The fault code 33 appears, if

- the card system is switched off
- the connecting cable is defective
- no card system is available, however, a '1' is programmed

The display shuts down after approximately 2 minutes. The changer no longer attemps to communicate with the card system and the fault code is recorded.

The communication with the card system can be reestablished as follows:

* Key F	fault code --33-- appears
* Key F again	display shuts down and card system responds again

Function 20 = Communication with a Bill Validator
G-26.4000 Standard and G-26.4800 Professional

Attention: A '1' may only be programmed, if a bill validator is connected to the changer.

Action	Key	Display
* Select function	F until 20 appears	20
* Display setting	E	20 0
* Change setting	+	20 1
* Return to base function	P	20
* Programme new setting	P	shuts down

Note: 0 = no bill validator available
1 = a bill validator is connected

The fault code 34 appears, if

- the bill validator is switched off
- the connecting cable is defective
- no bill validator is available, however, a '1' is programmed

The display shuts down after approximately 2 minutes. The changer no longer attemps to communicate with the bill validator and the fault code is recorded.

Remedying of the fault as described under function 19.

Function 21 = Communication with a Talking Module
G-26.4000 Standard and G-26.4800 Professional

<u>Attention:</u> A '1' may only be programmed, if a talking module is connected to the changer.

<u>Action</u>	**<u>Key</u>**	**<u>Display</u>**
* Select function	F until 21 appears	21
* Display setting	E	21 0
* Change setting	+	21 1
* Return to base function	P	21
* Programme new setting	P or +	shuts down

Function 22 = Setting of ‘tube empty’ condition

By using this function it is possible to determine the tube condition which will cause the display of ‘tube empty’ and to inhibit the acceptance of all coins programmed by function 17.

Please refer also to function 17 'Coins to be inhibited'.

Action	**Key**	**Display**
* Select function	F until 22 appears	22
* Display setting	E	22 00
* Increase by '1'	+	22 01
* Return to base function	F	22
* Return to standby	P or +	shuts down

Possible setting for tube empty condition - see next page.

On the following table 'A' corresponds to the tube with the lowest coin value, whilst 'C' corresponds to the tube with the highest coin value.

Note: The factory setting is '00', i.e. the 'tube empty' condition is fulfilled when either the tube for the lowest coin value is empty, or both tubes for the higher coin values are empty.

Value to be set	'Tube empty' condition
00	A empty or B and C empty
01	all tubes empty
02	A and B empty
03	A and B empty or A and C empty
04	only A empty
05	A empty or B empty
06	A empty or B empty or C empty
07	A and C empty
08	A empty or C empty
09	B and C empty
10	only B empty
11	B empty or C empty
12	only C empty

13. Summary of Fault Codes

Display	Meaning	Category
01	left motor not in final position	2
02	middle motor not in final position	2
03	right motor not in final position	2
04	left and right motors not in final position	2
05	middle and right motors not in final position	2
06	left and middle motors not in final position	2
07	right, middle and left motors not in final position	2
13	data block of validator defective	1
21	price data is sent to validator	3*
22	price data is loaded from validator	3*
23	data block is loaded	3
31	no answer from vending machine control	1
32	no answer from audit unit	1
33	no answer from credit card system	2
34	no answer from bill validator	2
41	file transfer caused by vending machine control	3
42	file transfer caused by audit unit	3
43	file transfer caused by credit card system	3
44	file transfer caused by bill validator	3
47	file transfer caused by talking module	3
48	file transfer caused by changer	3
51	vend operation	3
52	terminate transaction sent to credit card system	3
55	data transfer to data retrieval unit	3
80	vending machine control blocked	3 (1)
81	free vend	3
82	function ‘free vend’ and vending machine control blocked	3 (1)
83	changer functions blocked by data retrieval unit	3
95	lowest coin value > 2.50	1
96	lowest coin value = 00.00	1

* If the transfer of the data block is interrupted, this fault becomes a fault of category 1.

Display	Meaning	Category
.... flash	connecting cable or validator defective	1
22 flashes alternately with four points	price data has invalid length	1
1 I— 2 -I- 3 —I 4 — -1	coin channel 1, left tube, accepted coin channel 2, middle tube, accepted coin channel 3, right tube, accepted coin channel 4, cashbox, accepted return lever depressed	3 3 3 3 3

Categories:

Category 1 : These faults result in a service case and a shutdown of the vendor.

Category 2 : These faults result in a service case, however, further operation of vendor is possible with reservation.

Category 3 : Status indication.

Display	Meaning
01	Left motor not in final position
02	Middle motor not in final position
03	Right motor not in final position
04	Left and right motor not in final position
05	Right and middle motor not in final position
06	Left and middle motor not in final position
07	Left, middle and right motor not in final position

When a motor fault occurs during payout, subsequent payout operations are made with the two other tubes.

Simultaneously,acceptance of high valued coins is inhibited (function 17, only when 'Inhibit of high valued coins' is selected in function 04). The LED for 'tube empty' lights up.

The fault is stored within the error memory and is displayed temporarily.

Pressing any key the last fault is displayed.

Either:

o It is a fault, which can be removed by yourself, for instance a jammed coin

G-26.4000 Standard, G-26.4800 Professional:

* Remove jammed coin

* Key 'F'

o Fault number appears on display

* Key 'F'

G-26.4800 BDV-Standard:

* Remove jammed coin

* Execute inventory function by vending machine

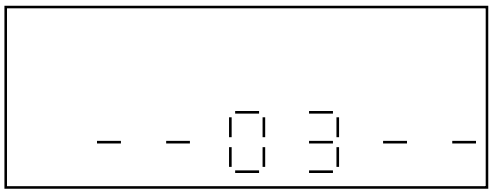
The fault is removed.
All tubes pay out coins correctly.

or:

G-26.4000 Standard, G-26.4800 Professional:

- o It is a fault, which cannot be removed immediately. However, the changer should remain in operation. Therefore, for example, the other tubes have to be filled.

On the display appears:



* Key 'F'

- o Display shuts down

* Fill tubes (see page 18)

* To ensure that no customer gets less change due to the defective motor, initiate one payout operation (function 01 = inventory) from the tube with the defective motor.

- o The fault number appears temporarily on the display.

The changer remains in working condition. When change is given the tube with defective motor is not operated. The acceptance of high valued coins is inhibited (function 17) and the LED 'tube empty' lights up.

G-26.4800 BDV-Standard without keyboard:

* Select function 'filling of tubes' on vending machine control, then fill tubes.

Display	Meaning
13	Data block of validator defective

This fault condition can be removed as follows:

* Key ‘F’ 4 times
* Key ‘E
* Key ‘+’ 2 times
* Key ‘F’
* Check setting of functions 2, 3, 4, 15, 16 and 17

Display	Meaning
....	Four points are flashing every two seconds. This means that the connecting cable to the validator or the validator itself is defective.

The fault condition can be removed as follows:

* Check whether the plug of cable to validator is plugged in correctly
* Check whether the cable strands are fixed and possibly change cable
* Check whether validator is defective and possibly replace validator

Display	Meaning
22 flashes alternately with four points	Price data has invalid length

The fault conditions can be removed as follows:

* Enable keyboard (switch on connecting module - chapter 10)
* Key ‘F’ until 04 appears on display
* Key ‘E’
* Key ‘+’ twice
* Key ‘F’
* Check setting of functions 2, 3, 4, 15, 16 and 17
* Block keyboard again

Display	Meaning
—21—	Price data is sent to validator
—22—	Price data is loaded from validator
—23—	Data block is loaded into validator
1 I—	Coin channel 1, left tube, accepted
2 -I-	Coin channel 2, middle tube, accepted
3 —I	Coin channel 3, right tube, accepted
4 —	Coin channel 4, cash box, accepted
-1	Return lever depressed

In case the above mentioned numbers are displayed the function of the changer is not influenced, because these indications are only for information.

Display	Meaning
31	No answer from vending machine control
32	No answer from audit unit
33	No answer from card system
34	No answer from bill validator

In case these fault codes appear, the coin acceptance is inhibited and no vend is possible.

The reason may be

- the connecting cable is defective
- the peripheral unit is switched off
- no peripheral unit connected, however, a '1' is programmed within the appropriate function

If the fault codes 33 or 34 appear, it is possible to change functions 19 or 20 in spite of a blocked keyboard. This is necessary, if it is not possible to replace the unit immediately.

After approximately 2 minutes the display shuts down. The changer no longer attemps to communicate with the card system or the bill validator respectively. The fault code is recorded.

The communication can be reestablished as follows:

* Key F	fault code 33 (34) appears
* Key F again	display shuts down and the card system (bill validator) responds again

Function S01 = Display of error list

What	Key	Display
* Select service function	E	S-01
* Display of error list	E	S-01 04 -03-
	04 is the number of fault within the error memory and here 04 corresponds to the number of faults 03 is the code of the fault	
* Display prior fault	+	S-01 03 -01-
	03 is the number of fault within the error memory 01 is the code of the fault	
* Return to standby	F or P	shuts down

Function S02 - Erasing of error list

What	Key	Display
* Select service function	E	S-01
* Select function ‘erase’	F	S-02
* Erase error list	E	S-02 ▯
	+	S-02 ▯▯
	E	S-02 ▯▯▯

Function S03 = Initialize GLOBO Card system

This function appears only when a GLOBO Card system is connected to the changer. Please refer to the operating instructions 'GLOBO Card System - Installation'.

Function S04 = Tube counter set to Zero

What	Key	Display
* Service function	E	S-01
* Select function 'Erase'	F until S-04 appears	S-04
* Set tube counter to zero	E	S-04
	+	S-04
	+	S-04

o The tube counter is erased and the display shuts down after approximately one second.

16. Maintenance

* Adjustment of

  - prices (G-26.4000 Standard) → see function 02
  - coin acceptance → see operating instructions for KUNEMP G-10.4000/5
  - coin denomination → see operating instructions for KUNEMP G-10.4000/5
  - token denomination → see function 0303 and operating instructions for KUNEMP G-10.4000/5

* Filling change tubes through validator
  either with key '+'
  or by function 1305 (see item 'Filling Change Tubes', page 18)

* Check and replace if necessary, coin damper in validator

* Clean validator as follows:

  o No dismantling necessary

  * Open front of validator by turning lock knob to the left

  * Clean with damp cloth

  o Keep unit away from water

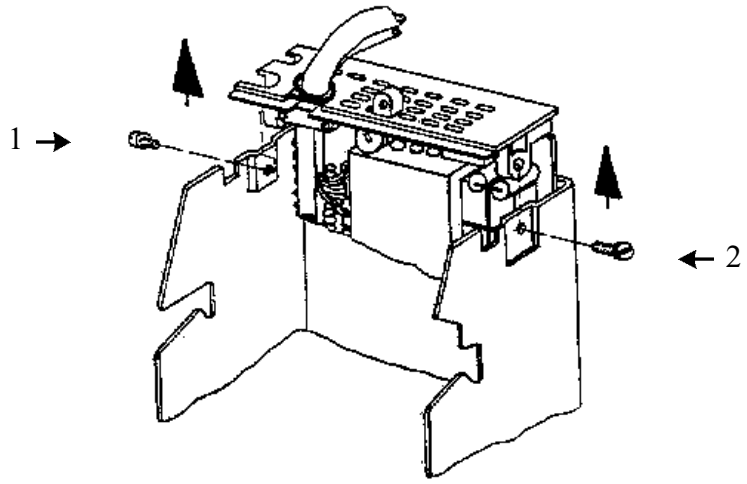
  * Shut front of validator by turning lock knob to the right

17. Adaptations to different machines

The changer may be modified with interchangeable interface modules, EPROM's of the control and/ or connecting cables.

Replacing interface module

* Unfasten safety screw
* Remove validator
* Remove screws 1 and 2
* Withdraw module
* Fit new module
* Replace screws 1 and 2
* Refit validator and fasten safety screw

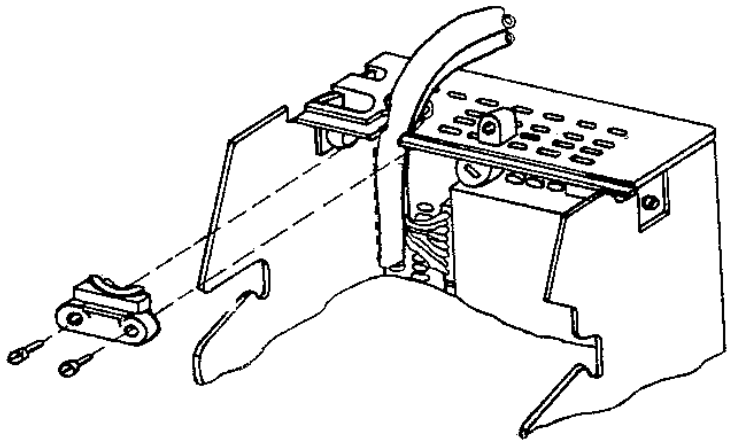


Interface modules available

4- and 10-price outputs for 110/120/220/240 Volts A.C.
switchable 110/220 and 120/240 Volts
4- and 10-price outputs for 24 Volts A.C.
4-price outputs for 24 Volts A.C. COCA COLA Standard
G-26.4500 SIMPLEX III
G-26.4400 SIMPLEX V
G-26.4800 Professional
G-26.4800 BDV-Standard

Replacement of connecting cable

* Unfasten safety screw
* Remove cable clamp (two screws) of the interface module
* Remove cable
* Refit and secure new cable
* Pay attention that the cable clamp covers the shield
* Refit validator and secure with safety screw



18. Use of a Bill Validator

A converter is used for the interface of different bill validators and changers.

The data transfer between converter and changer is carried out according to a data protocol, which is similar to the BDV 001 protocol.

The converter enables connection of one of the following types of bill validators:

ARDAC S 2000
Armatic AL 07 *
Coges LMB/1 - LMB/8
Landis & Gyr BSN 40

* The blocking signal of this unit must be high active.

If you would use another type of bill validator, please contact NRI.

For each type of bill validator a special connecting cable is required, which can be ordered at NRI.

Please refer also to the separate operating instructions “Use of Bill Validator in connection with the changer series G-26.4000”.

19. Use of a Data Retrieval Unit

By using an infrared adapter the data of the G-26.4000 can be read out (not possible with a G-26.4800 BDV-Standard changer). This adapter transfers the data via an infrared transmission line to a data retrieval unit.

By using a data retrieval unit the data of the changer can be loaded into a personal computer for further processing.

There exist three different types of data retrieval unit:

data retrieval unit for service
data retrieval unit for driver
data retrieval unit for management.

After printout of data by a printer the data is erased. However, if prior to printout a data retrieval unit was used, the data remain stored even after printout.

Only after initialization with a data retrieval unit for service the data is erased after printout.

Please refer to the separate ‘Operating Instructions for Data Retrieval Unit’.

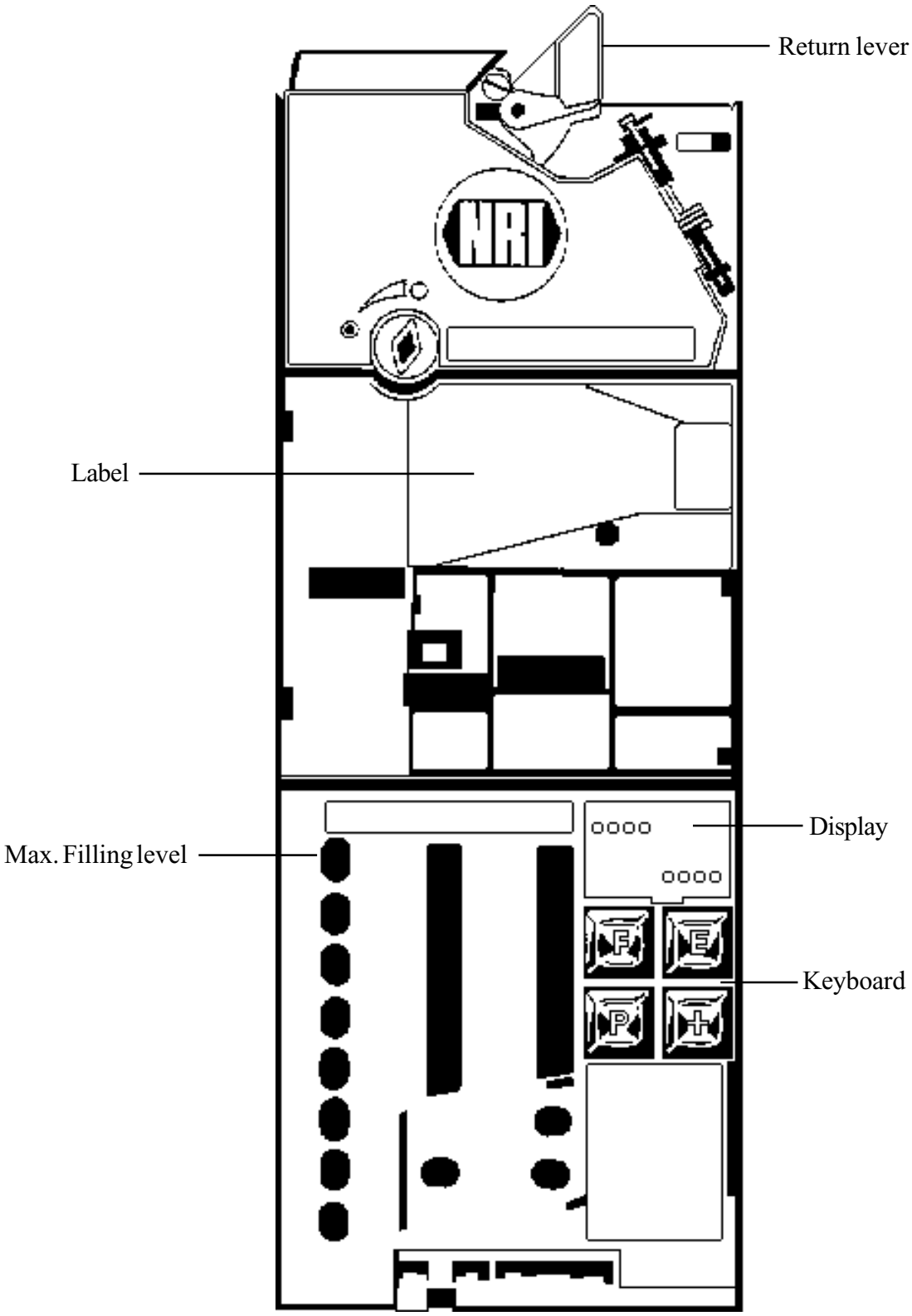
20. Use of a NRI Talking Module G-58.0100

Due to its small dimensions the talking module can be used in all kinds of vending machines.

The use of IC's of state-of-the-art technology enables a natural voice reproduction.

By using a personal computer you can create individual text yourself.

Please refer to the separate 'Operating Instructions for Talking Module G-58.0100'.


Return lever
Label
Max. Filling level
Display
Keyboard
NRI
F
E
P
H

Manual for

Changer Series G-26.4000

- Appendix -

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Changer Series G-26.4000

- latest programme version -

The changer series G-26.4000 are now delivered with the following programme version :

92 00 220-005 (valid for G-26.4000 4-price, 10-price)

92 00 230-005 (valid for G-26.4000 BDV, Professional, Simplex V)

All validators manufactured since 1989, we received for repair, will be retrofitted automatically.

This changer software offers the following functions:

1) Function 19 = Activate communication with the NRI card system GLOBO Card

2) Function 03 = Setting of a subsidy instead of token no. 2

3) Function 04 = Erase remaining credit

4) Function 04 = Activate price table within G-26.4000 Simplex V

5) Function 02 = Setting of prices within G-26.4000 Simplex V

6) Function 10 = Read out of vend/sales data via display (G-26.4000 Professional and Simplex V)

7) Function 16 = Print out of vend/sales data (G-26.4000 Professional and Simplex V)

8) Function 16 = Print out via printer <u>without</u> print key

Due to additional information the printout of audit data has changed. Please find an example of the new printout within.

06.93/Bw/VBi

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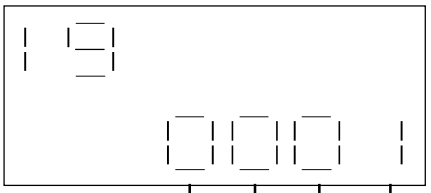
1) Function 19 = Activate communication with NRI card system GLOBO Card

Action	Key	Display
* Select function	F until 19 appears	19
* Display setting	E	19 0000
(See page 3)		
* Select digit, if required	P twice	19 0000
* Change setting, if required	+	19 0010
* Select last digit	P	19 0010
* Change this setting	+	19 0011
* Return to base function	F	19
* Return to standby	P or +	shuts down

Explanation of function 19 = Activate communication with NRI card system GLOBO Card

Note: Only if a card system is connected should a '1' be programmed into any of the four digits in function 19. These digits have to be 'O' if no card system is connected.



0: no communication with the card system
1: communication with the card system

0: machine control can modify last digit (see below)
1: last digit can only be modified via the changer keyboard

0: changer does not accept discount from card system
1: changer does accept discount from card system

0: no subsidies possible (see below)
1: subsidies possible when using GLOBO card

2nd digit from the right (machine control):

Only in machines working with the protocol BDV 001 the machine controller can sometimes automatically set the last digit of the display, described above, to '0' after switching on the machine. If a card system is connected it does not work. However, it is possible to put it into operation in the following way:

* Set the 2nd digit from the right to '1' (= last digit can only be modified via the changer keyboard)

4th digit from the right (subsidies):

In case of a subsidized vend the card user gets his product either free of charge (free vend) or a part of the vend price is deducted from the card credit.

If a '1' is programmed within the 4th digit from the right of function 19, you can determine within function 0304 the amount, which shall be deducted from the vend price (see page 4).

The number of subsidized vends per day are determined by the card system. Additionally the card system contains the information whether the set subsidized amount should be granted or not when using a GLOBO card.

2) Function 03 = Setting of a subsidy instead of token no. 2

When the Globo card system is connected you can programme a subsidy within function 0304 of the changer.

Note: Prior to programming of a subsidy instead of token 2 make sure that within function 19 the communication with the Globo card system as well as subsidies are activated (refer to page 2).

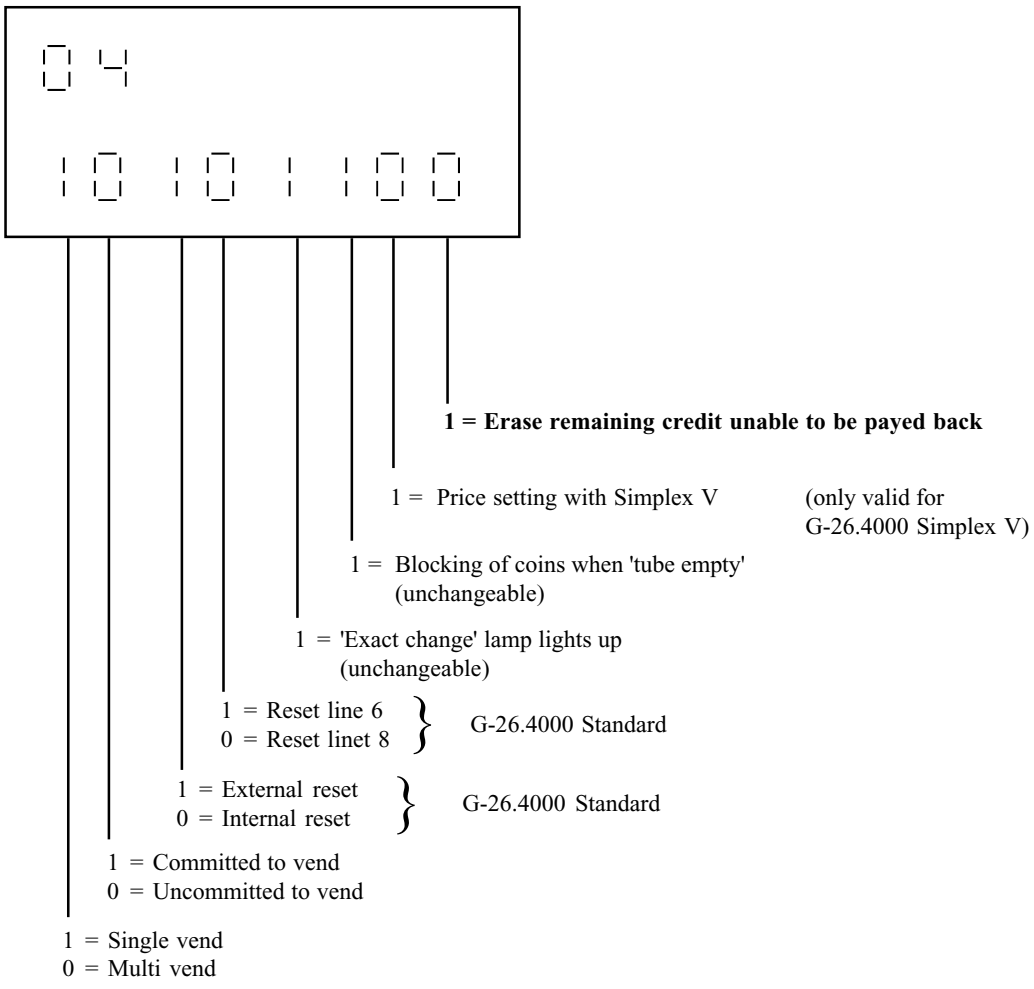
Action	Key	Display
* Select function 03	F until 03 appears	03
* Display acceptance limit	E	0301 00.00
* Select function 03 04	P three times	0304 00.05
* Increase by lowest coin value	+ once	0304 00.10
* Increase by multiple of lowest coin value	+ continuously	0304 00.50
* Rapid increase (100 times lowest coin value)	+ continuously	0304 05.50
* Return to base function	P	03
* Return to standby	P or +	shuts down

3) Function 04 = Erase remaining credit

If you activate function 'Erase remaining credit', non-payable credit is erased after a single vend. Non-payable residual credit means a credit amount for example lower than the lowest coin within tubes of if tube store is empty.

Within function multi vend the non-payable residual credit is erased after pressing the return lever.

All erased credit amounts are added by the changer control and printed out under 'erased residual credit' when printing the audit data.

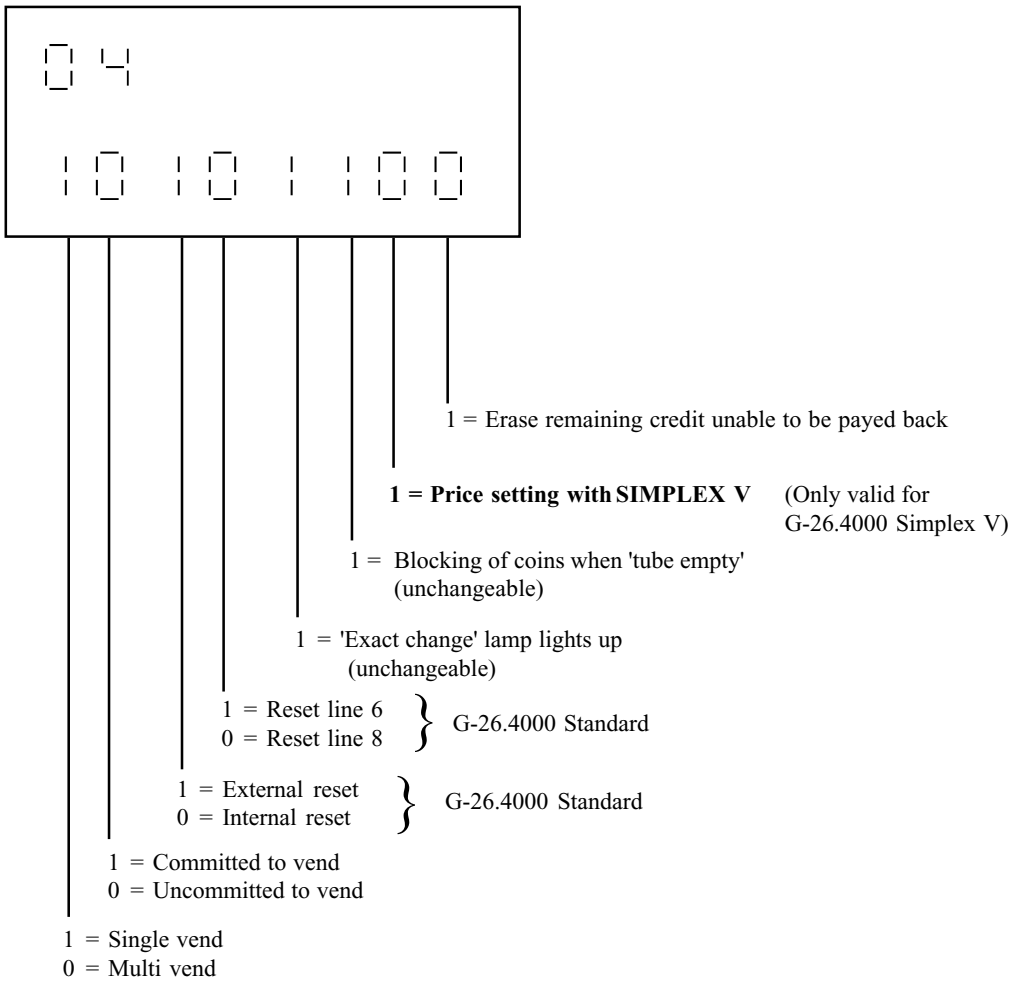


* When programming this function please refer to the 'Manual for Changer Series G-26.4000' function 04.

4) Function 04 = Activate price table within G-26.4000 Simplex V

Using this function it is possible to set the prices within the G-26.4000 Simplex V. Thus the audit data for the G-26.4000 Simplex V now include also the information referring vend/sales per price line.

Prior to price setting it is necessary to activate the price table within the G-26.4000 Simplex V.



* When programming this function please refer to the ' Manual for Changer Series G-26.4000' function 04.

5) Function 02 = Setting of prices within G-26.4000 Simplex V

Up to 10 prices can be set.

* Please refer to the 'Manual for Changer Series G-26.4000' function 02 = Pricing of G-26.4000 Standard.

Note: Prior to price setting please activate the price table for G-26.4000 Simplex V within function 04 (please refer to page 6).

Up to now prices of Simplex V were programmed within the machine control. Therefore the communication between G-26.4000 Simplex V and machine is performed in such a way that the changer expects the price information from the machine control. In order to ensure that the communication is not interrupted by the price table within Simplex V, please make sure that the price information within the machine control is adapted.

Price setting within the machine control depends on the lowest coin value in the changer. If the G-26.4000 Simplex V has a price table, the 1st price within the machine control has to correspond with the lowest coin value of the changer. All other prices within the machine control have to be a multiple of the lowest coin value.

Price for product 1 = 1 x lowest coin value
Price for product 2 = 2 x lowest coin value
Price for product 3 = 3 x lowest coin value
etc.

Setting of price information within the machine control is independent from prices within the changer.

Example: lowest programmed coin value = 0.50

Product No.	Price information within vendor	Price setting within changer under function
1	0.50	02 01
2	1.00	02 02
3	1.50	02 03
4	2.00	02 04
5	2.50	02 04
6	3.00	02 05
:	:	:
10	5.00	02 10

If the vendor transfers 2.50 to the changer, the changer charges the price set within function 0205.

6) Function 10 = Read out of vend/sales data via display (G-26.4000 Professional and Simplex V)

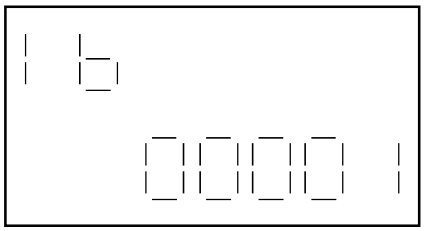
The new changer software records also the vend/sales data of the G-26.4000 Simplex V and Professional. This data can be read out via the changer display.

* Please refer to the 'Manual for the Changer Series G-26.4000' function 10 'G-26.4000 Standard'.

Note: In order to record the vend/sales data of the G-26.4000 Simplex V please activate the price table for G-26.4000 Simplex V within function 04 and set prices in function 02 (please refer to page 6).

7) Function 16 = Print out vend/sales data (G-26.4000 Professional and Simplex V)

By using this function you can determine the printout format. In order to print out the vend/sales data for the changer Simplex V or Professional please activate the appropriate position within function 16.



0 = Sales data is printed
1 = Sales data is not printed

0 = Vend/sales data per price line is printed
1 = Vend/sales data per price line is not printed

0 = Time is printed
1 = Time is not printed

0 = Audit data is erased after printout
1 = Audit data is only erased after initialization by a data retrieval unit for service

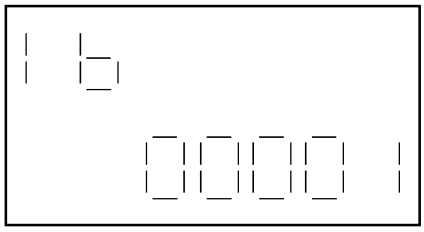
0 = Printout via printer with print key
1 = Printout via printer without print key

* Please refer to the 'Manual for Changer Series G-26.4000' function 16.

8) Function 16 = Printout via printer <u>without</u> print key

When using this function the changer checks whilst printing whether the printer is connected or not. In case the printer is not connected, the print procedure is finished immediately. However, the audit data is not erased. This prevents possible manipulations by pulling off the connecting cable from the printer early.

If this function is active you can only use a printer <u>without</u> print key, i.e. a printer in which the print key is shunted and thus active permanently.



0 = Sales data is printed
1 = Sales data is <u>not</u> printed

0 = Vend/sales data per price line is printed
1 = Vend/sales data per price line is <u>not</u> printed

0 = Time is printed
1 = Time is <u>not</u> printed

0 = Audit data is erased after printout
1 = Audit data is only eased after initilization with a data retrieval unit for service

0 = Printout via printer with print key
1 = Printout via printer <u>without</u> print key

* Please refer to the 'Manual for Changer Series G-26.4000' function 16.

Annex

Printout of audit data

```
MACHINE:  2          Machine No. 1 - 4 digits
     123456          Machine No. > 4 digits
 19.02.1991

AUDIT0:   4
AUDIT1:   1

TOTAL SALES
S     13.00
C       40

CASHLESSCARD                 Only if a card system is operating
S      7.50          sales
C        30          cycles      > since initialisation
C      7.50          credit
==========
ON/OFF:   2

TO CASHBOX
       9.00          money inserted by customers to cashbox
       0.00          receipts from bill validator

TO TUBES
       4.00          money inserted by customers to tubes
      24.00          money inserted during tube filling (operator)

CHANGE
       0.00          change paid out
       0.00          money paid out during inventory
       0.00          erased remaining credit

TUBE STORE
      28.00

SALES
      13.00

CYCLES
         40
          0          number of test sales
...........
CASHLESSCARD

SALES
       7.50          turnover using GLOBO Card

CYCLES
         30          number of vends using GLOBO Card

DISCOUNT
       8.20          total value of discount and subsides
         20          number of subsidies and free vends

CASH TO CARD
       0.00          credit to cards (reloading cards)
=======
```

This section is printed out only if a card system is operating.

```
SALES/VENDS

S1     1.90
C1        4
S2     1.50
C2        3
S3     1.54
C3        4
S4     1.36
C4        4
S5     1.20
C5        5
S6     1.10
C6        6
S7     1.10
C7        4
S8     1.10
C8        4
S9     1.10
C9        4
S10    1.10
C10       5

16:53
05.05.1993
```

Vend/sales data per price line

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New Changer Series G-26.4000/6

- CPU-card with extended memory -

The changer series G-26.4000/6 includes a CPU-card with extended memory:

G-53.0801 with programme version 92 00 225-001
(valid for G-26.4000 4-price, 10-price)

G-53.0802 with programme version 92 00 240-001
(valid for G-26.4000 BDV, Professional, Simplex V)

G-53.0803 with programme version 92 00 240-001
(valid for G-26.4000 BDV)

The G-26.4000/6 offers you additional functions as follows:

1) Function 06 = Display of additional sales data since last printout

2) Function 08/09 = Display of additional vend data

3) Function 07 = Display of sales data since installation

4) Function 25 = Setting of maximum number of coins per tube

5) Function 22 02 = Setting of 'committed to vend' even when tubes are empty

6) Function 31 = Programming of free vend for token

7) Function S-99 = Standard setting

8) Function 0401 = a) Display of price for selected product
b) Working with 'two price lists' (only G-26.4000/6 4-price)

9) Function 02 = Price setting for two price lists (only G-26.4000/6 4-price)

10) Function 10/11 = Display vend/sales data per price line for two price lists (only G-26.4000/6 4-price)

11) Function 24 = Setting of period of validity for second price list (only G-26.4000/6 4-price)

Due to the additional information the printout of audit data has changed. Annex I shows you an example of the new printout. Annex II gives further improvements to the changer.

08.93/VBi

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1. Function 06 = Display of additional sales data since last printout

* Please refer to function 06 **Sales Data** of the 'Manual for Changer Series G-26.4000'.

The additional sales data are:

06 13 = Total amount of accepted tokens (since last printout)

06 14 = Erased token amount (since last printout)

2. Function 08/09 = Display of additional vend data

* Please refer to function 08 **Vend/Sales Data** of the 'Manual for Changer Series G-26.4000'

The additional vend data are:

08 08 = Total sales with token (since installation)
09 08 = Total vends with token (since installation)

08 09 = Total sales with token (since last printout)
09 09 = Total vends with token (since last printout)

Explanation:

The additional sales and vend data refer to the tokens programmed within the changer. Using function 03 you can programme token values (please refer also to the 'Manual for Changer Series G-26.4000'). The total value of all accepted tokens is stored within the changer.

If a token is used for paying it is not necessary that the token value corresponds to the price. If the token value is higher than the price, the difference appears briefly, but then the display shuts down and the difference remains within the changer. The total of these differences will be shown under 'erased token amount' on the printout.

If the token value is lower than the price, it is possible to insert coins in order to reach the required amount.

3. Function 07 = Display of sales data since installation

Action	Key	Display
* Select function	F until 07 appears	07
Since installation		
* Cash to cashbox	E	0701 865.20
* Cash to tubes	E	0702 250.00
* Change paid out	E	0703 175.60
* Cash to tubes during filling of tubes	E	0704 315.30
* Money paid out during inventory	E	0705 113.00
* Credit to card	E	0706 78.80
* Receipts of bill validator	E	0707 670.00
* Erased residual credit	E	0708 26.30
* Total amount of accepted tokens	E	0709 120.60
* Erased token amount	E	0710 11.70
* Return to base function	F	07
* Standby	P or +	shuts down

4. Function 25 = Setting of maximum number of coins per tube

Action	Key	Display
* Select function	F until 25 appears	25
* Display of **maximum number of coins in left tube**	E	2501 00
* Increase by '1'	+ until desired number appears	2501 20
* Erase value	E and + simultaneously until 00 appears	2501 00
* Display of **maximum number of coins in middle tube**	P	2502 00
Change as described above		
* Display of **maximum number of coins in right tube**	P	2503 00
Change as described above		
* Return to base function	F	25
* Standby	P or +	shuts down

If the maximum number of coins is reached this is represented by the character 'A' during tube filling.

If no value is programmed (display = 00) the maximum number of coins is limited automatically to 96 pieces.

5. Function 2202 = Committed to vend even when 'tube empty'

Up to now the function 'committed to vend' was cancelled as soon as the tube empty condition was fulfilled. Programming a '1' within function 2202 the feature 'committed to vend' remains valid even when 'tube empty'.

Action	**Key**	**Display**
* Select function	F until 22 appears	22
* Display of "tube empty" condition	E	2201 00
* Display of "committed to vend when tube empty"	P	2202 0
* Change setting	+	2202 1
* Return to base function	F	22
* Standby	P or +	shuts down

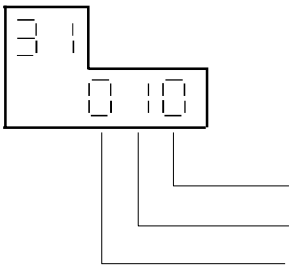
'0' = Uncommitted to vend when 'tube empty'
'1' = Committed to vend when 'tube empty'

6. Function 31 = Programming of free vend for token

Using function 31 you can programmme free vend for a token to allow certain customers to buy products free of charge. Possibly programmed token values within function 03 (please refer to 'Manual for Changer Series G-26.4000') are displayed, but not considered.

Action	**Key**	**Display**
* Select function	F until 31 appears	31
* Display setting	E	31 000
* Select digit to be changed	P until desired digit flashes	3101 000
* Change setting	+	3101 010
* Return to base function	F	31
* Standby	P or +	shuts down

Example:



0 = no free vend with token 1
1 = free vend with token 2
0 = no free vend with token 3

7. Function S-99 = Standard setting

Function S-99 allows you to store the present setting of the changer and to execute the standard setting as mentioned below.

Action	Key	Display
* Service function	E	S-01
* Select standard setting	F until S-99 appears	S-99
* Execute standard setting	E	S-99 H
	+	S-99 HH
	P	S-99 HHH
o The standard setting is executed and after approximately 1.5 seconds appears		AA

When executing the service function S-99 again the stored changer setting is reestablished and the display shuts down.

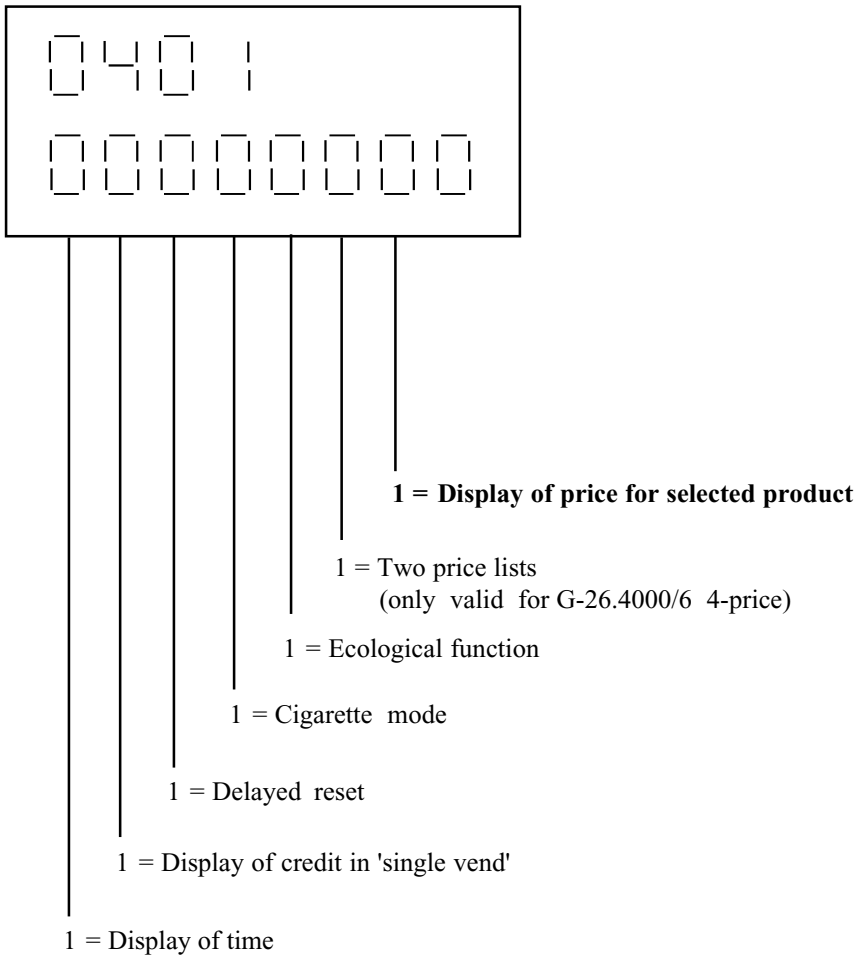
Standard setting:

1. Values from 00.10 up to 01.00 (in decimal steps) are assigned to prices 1 to 10.
2. No acceptance and change limitation (function 03)
3. Token 1 = 00.50, token 2 = 01.00, token 3 = 01.50 (function 03)
4. Single vend; Reset line 8 (function 04)
5. No single coin inhibit (function 15)
6. No printout of vend/sales data per price line (function 16)
7. Coins are inhibited within channels 4, 5, 6, 7, 8 when 'tube empty' (function 17)
8. No communication with peripheral units (functions 18, 19, 20, 21)
9. 'Tube empty'- condition is set to 0 (function 22)

8a. Function 0401 = Display of price for selected product

When activating this function the price of the selected product is shown on the external display if the credit within the changer is not sufficient for the vend. Thus the customer realizes how many coins he has to insert.

The operator is able to check easily the set vend prices.

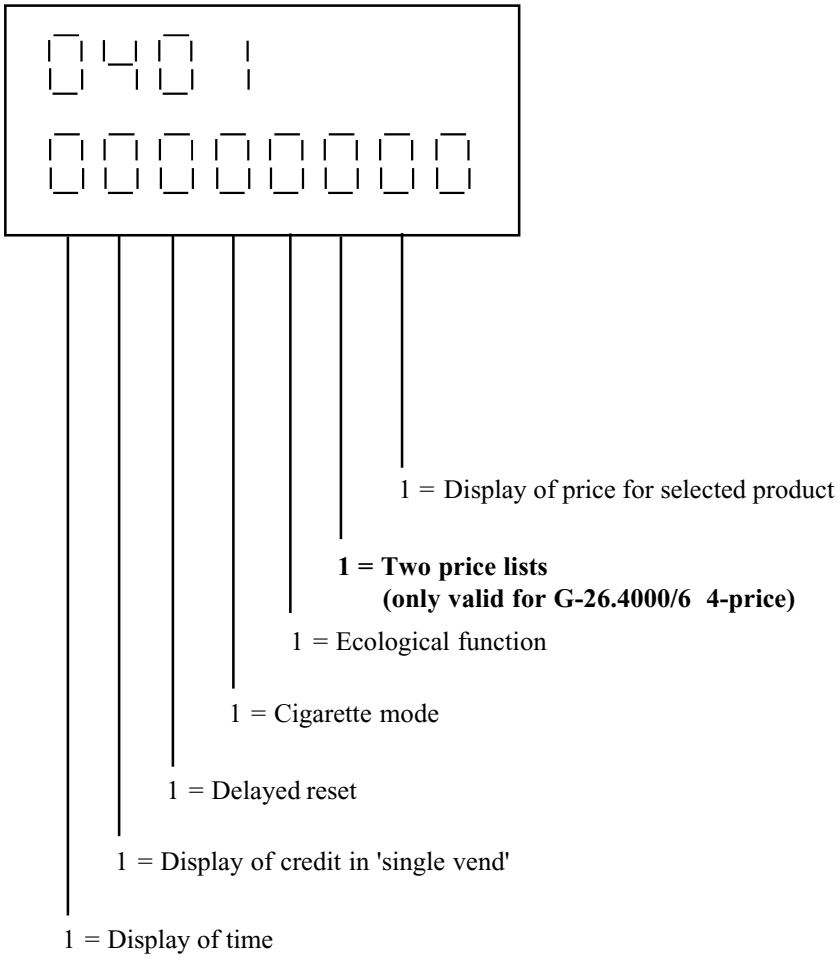


* Please refer to the 'Manual for Changer Series G-26.4000' function 0401.

8b. Function 0401 = Working with 'two price lists' (only G-26.4000/6 4-price)

The G-26.4000/6 4-price changer can process two prices per product. The prices are combined in two price lists. The switch over from one price list to the other one depends on the period of validity. It is possible that during a certain period the machine sells the products at a more favourable price. For example the machine will become more attractive for the night shift.

Please activate 'two price lists' in function 0401.



* Please refer to the 'Manual for Changer Series G-26.4000' function 0401.

9. Function 02 = Setting of prices for two price lists (only G-26.4000/6 4-price)

Note: Please activate 'two price lists' in function 0401 (see page 9), before setting the price for the second price list.

Within the second price list you can also select free vend (price = 00.00).

Action	Key	Display
* Select function	F until 02 appears	02
* Display of 1st price price list I	E	02 I 1 00.10
* Display of 2nd price price list I	P	02 I 2 00.50
	etc., until 4th price is reached	
* Display of 1st price price list II	P	02 II 1 00.20
	etc.	

Assuming the price to be changed is displayed

* Increase by lowest coin value	+ once	02 I 1 00.20
* Multiple increase by lowest coin value	+ continuously	02 I 1 00.70
* Rapid increase (100 times lowest coin)	E	02 I 1 10.70
* Setting lower price	E and + simultaneously until 00.00 appears, then set price	02 I 1 00.10

10. Function 10/11 = Display of vend/sales data per price line for two price lists (only G-26.4000/6 4-price)

Note: Before you can read the data per price line, please activate 'two price lists' within function 0401 (see page 9) and execute price setting for two price lists (see page 10).

Action	Key	Display
* Select function	F until 10 appears	10
* Display: Sales selection 1 of price list I	E	10 1 00.10
* Display: Number of vends with selection 1 of price list I	E	11 1 1
	etc., until price 4 is reached	
* Display: Sales selection 1 of price list II	E	10 II 1 00.20
* Display: Number of vends with selection 1 of price list II	E	11 II 1 2
	etc., until price 4 is reached	
* Return to base function	F	10
* Standby	P or +	shuts down

Note: If two price lists are used within the changer, the printout also includes the data for both price lists.

Example:

```
Sales/Vends
Price list 1
S1      00.00
C1          0
S2      00.00
C2          0
S3      00.00
C3          0
S4      00.00
C4          0
Price list 2
S1      00.00
C1          0
S2      00.00
C2          0
S3      00.00
C3          0
S4      00.00
C4          0
```

11. Function 24 = Setting of period of validity for second price list (only G-26.4000/6 4-price)

Note: Please activate 'two price lists' in function 0401 (page 9) before setting the start and end for second price list.

Action	Key	Display
* Select function	F until 24 appears	24
* Display 'start'	E	2401 00.00
* Select digit to be changed	P sequentially	2401 00.00
* Change digit	+ until desired value appears	2401 06.00
* Display 'end'	E	2402 00.00
* Select digit to be changed	P sequentially	2402 00.00
* Change digit	+ until desired value appears	2402 10.00
* Return to base function	F	24
* Standby	P or +	shuts down

In the above example (function 2401 = 6.00, function 2402 = 10.00) the changer will consider the second price list between 6.00 a.m. till 10.00 a.m.

Note: If the time choosen for start and end are identical, the changer considers only price list 1.

Annex I

Following audit data are now printed out additionally: Total amount of accepted tokens, erased token amount, total sales and total vends with token.

Example of printout

```
MACHINE:1234
      123456
  09.10.1992

AUDIT0     1
AUDIT1     1

TOTAL SALES

S      10.00
C          5

CASHLESSCARD

S       2.00
C          1
C       2.00
============
OFF/ON:   4

TO CASHBOX
        15.00

         0,00

TO TUBES
         0,50
         0,00

CHANGE
         5,50
         0,00
         0,00

TUBE STORE
         0,20

SALES
        10,00
CYCLES
            5
            0

TOKEN
         1.00
         0.50

S        0.50
C           1

.............
CASHLESSCARD

SALES
         2,00

CYCLES
            2

DISCOUNT
         0,00
            0
CASH TO CARD
         2,00
===========
```

Machine No. 1 - 4 digits
Machine No. . > 4 digits

Only when card system is activated:

Sales with card (since installation)
Cycles with card (since installation
Credit to card (since installation)

Erased credit unable to be paid back

Total amount of accepted tokens
Erased token amount

Total sales with token
Total vends with token

Only when card system is activated:

Number of subsidies with card

```
SALES/VENDS

S1      10,00
C1          5
S2       0,00
C2          0
S3       0,00
C3          0
S4*      0,00
C4          0
S5       0,00
C5          0
S6       0,00
C6          0
S7       0,00
C7          0
S8       0,00
C8          0
S9       0,00
C9          0
S10      0,00
C10         0

10.10.1992
```

* = Discount by ecolocigal function
(Only G-26.4000 Standard)

Annex II

Further improvements to the changer:

- In function 02 of the changer G-26.40000/6 Simplex V now up to 20 prices are available.

- After printout the audit data are not erased immediately, but after a vend, after insertion of a coin or after pressing the return lever.

- Data referring to the filling level of tubes as well as the coins sorted into tubes are transmitted to the vending machine control, if the machine control requires this data (only BDV).

- If the condition for 'tube empty' is fulfilled, the coins inhibited by function 17 (Coins to be inhibited) are enabled, if

  - user card is within the GLOBO Card system
  - reloading of card is allowed

in order to enable the reloading of the card.