



User Manual



Electronic Cash Register

CR 20/28

CR 21/29

...designed to succeed

Dear valued customer!

On behalf of our proud company we wish to welcome you to the QUORION family of fine business machines. We sincerely hope you will appreciate the many benefits of being associated with a distinguished product name that represents both quality and commitment to customer satisfaction.

The QUORION CR 20/28 or CR 21/29 is fully customizable and yet simple to operate. Users can easily adapt it to any type of retail/scanning or hospitality system. Moreover, our dynamic software generates a compatible environment for a wide array of peripheral devices. It is exactly this versatility and quality that has made us successful among our multinational customers.

It is therefore with great pride that we look forward to continuing our close collaboration with our customers.

Your QUORION Team

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1. Safety Precautions

This section presents important information intended to ensure safe and effective use of the CR 20/28. Please read this section carefully and store it in an accessible location.

- Be sure the voltage of your main power net corresponds to the input voltage printed on the rating plate of the system. Do not connect power adapters from other manufacturers. Use this product only for its intended application. Improper usage may lead to equipment damage, fire, or shock.
- Be sure your power cable meets the relevant safety standards and includes a power-system ground terminal (PE terminal). Otherwise shock may result.
- Never attempt to stretch the cables to enable a connection. The power cable and DC cable must have adequate slack at all times during use.
- Do not connect to electrical outlets close to devices that generate voltage fluctuations or electrical noise. In particular, stay clear of devices that use large electric motors.
- Never insert or disconnect the power plug with wet hands. Doing so may result in severe shock.
- Always connect the DC cable before plugging the power cable into the wall outlet.
- When disconnecting the DC cable, hold it firmly at the connector area. Do not tug on the cable itself.
- Never attempt to repair this product yourself. Improper repair work can be dangerous.
- Never disassemble or modify this product. Tampering with this product may result in injury, fire, or electric shock.
- Be sure to set this unit on a firm, stable, horizontal surface. Product may break or cause injury if it falls.
- Keep the system away from all conditions, which may cause damage, fire or accidents: Direct sunlight, high temperature and humidity, extreme changes in temperature, heating and cooling equipment, or humidity, volatile materials, high levels of dust, vibration, and impact.
- Keep away any liquids from the system. If water or other liquid spills into the equipment, unplug the power cable immediately, and then contact your dealer for advice. Continued usage may lead to fire or shock.
- To prevent possible harm to the environment or human health please separate this product from other waste streams to ensure that it can be recycled in an environmentally sound manner. For more details on available collection facilities please contact your local dealer where you purchased this product.

2. General information

2.1 Technical data

Processor	CPU	32 bit ARM 966E
Memory	Program Memory	1 MB FLASH ROM
	Data Memory	2 MB FLASH ROM
	Working Memory	96 kB SRAM (battery buffered)
Display	Operator Display	Numeric LCD 12 character CR 20/28 Alphanumeric LCD 16 character CR 21/29
	Customer Display	Numeric LCD with 12 character
Keyboard	Internal	36 keys
Printer	Internal (2 versions)	1 x 57 mm thermal without cutter
		2 x 38 mm thermal without cutter
Interfaces	Serial	2 x RS232 (RJ45)
	Cash Drawer (DRW 9V, 5Ω)	1 x Device
	USB	1 x Device
Software	Application	Application software QMP-Lite
	Number of PLU's	10000
	Number of Departments	100
	Number of Clerks	8
	Number of Sales Persons	8
	Number of Customer Reports	10
	Number of EJournal Lines	20000
Specifications	Dimension	300 x 260 x 100 mm
	Weight	2 kg
	Recharge Power Supply	110 ... 240 V
	Operating Temperature	5 ... +45°C
	Storage Temperature	-5 ... +50°C

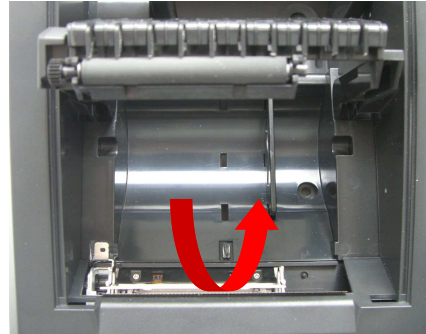
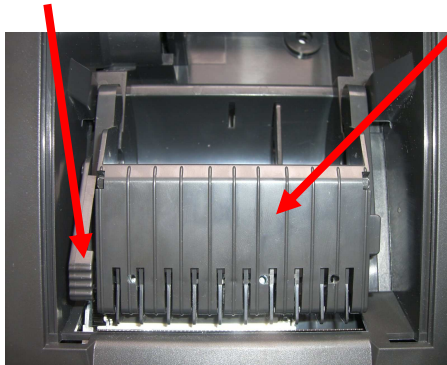
2.2 Components



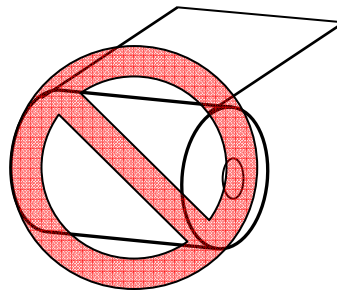
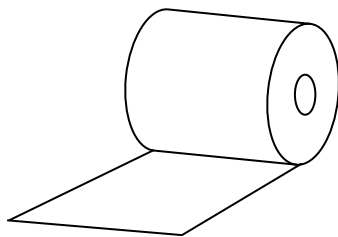
2.3 Thermal printer

2.3.1 Paper Insertion

1. Open the printer cover
2. Press the Easyload lever and fold the Easyloadcover up.



3. Insert the paper roll as shown below.



4. If you use a paper journal (2x 38 mm) please turn the paper of the journal a few times around the paper winding wheel.
5. Close Easyloadcover
6. Close the printer cover

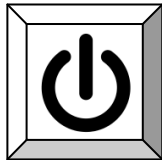
To remove the paper roll, follow the steps below:

1. Open the printer cover
2. Press the Easyload lever and fold the Easyloadcover up.
3. Remove the paper roll
4. Close the printer cover

Note: Do not pull out the remaining paper in the opposite direction of the paper feed!

2.4 Switch ON / OFF cash register

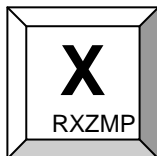
To switch the cash register ON or OFF, please press and hold this button 3 seconds.



2.4.1 Operating modes

The operating modes control the operation of your Cash Register. There are five different modes for various functions. The selection of an operating mode can be done either by soft key on keyboard.

Soft key



The soft key alternating switches the modes R - X - Z - M - P. The access authority is realized by programming of special operator flags. See system option 221.

Mode	Display	Function
R	– REG –	Registration – all sales operations and registrations
X	– X –	X-Report – viewing and printing of all reports without clearing
Z	– Z –	Z- Report – viewing and printing of all reports with clearing
M	– MGR –	Manager – all sales operations and registrations – all functions with manager authority – easy programming
P	– P –	Programming – programming of all functions

2.5 Interfaces

The CR 20/28 or CR 21/29 is equipped with two RS232, one USB device and one cash drawer interfaces. The RS232 ports are used to connect peripheral devices like scanner, display, QuoriLog etc. Please note that there is no power output from these ports. The USB port is only prepared for PC communication. It is not to be used with USB devices, like memory sticks, scanners, printers etc

Location of the interfaces (rear view):



2.5.1 Pin Assignment

RS232 Ports



- 1: --
- 2: RxD
- 3: TxD
- 4: DTR
- 5: GND
- 6: DSR
- 7: RTS
- 8: CTS

USB Host



- 1: VCC
- 2: USB N0
- 3: USB P0
- 4: GND

Cash Drawer (DRW 9V)



- 1: GND
- 2: Drawer -
- 3: Sensor
- 4: Drawer +
- 5: n/a
- 6: GND

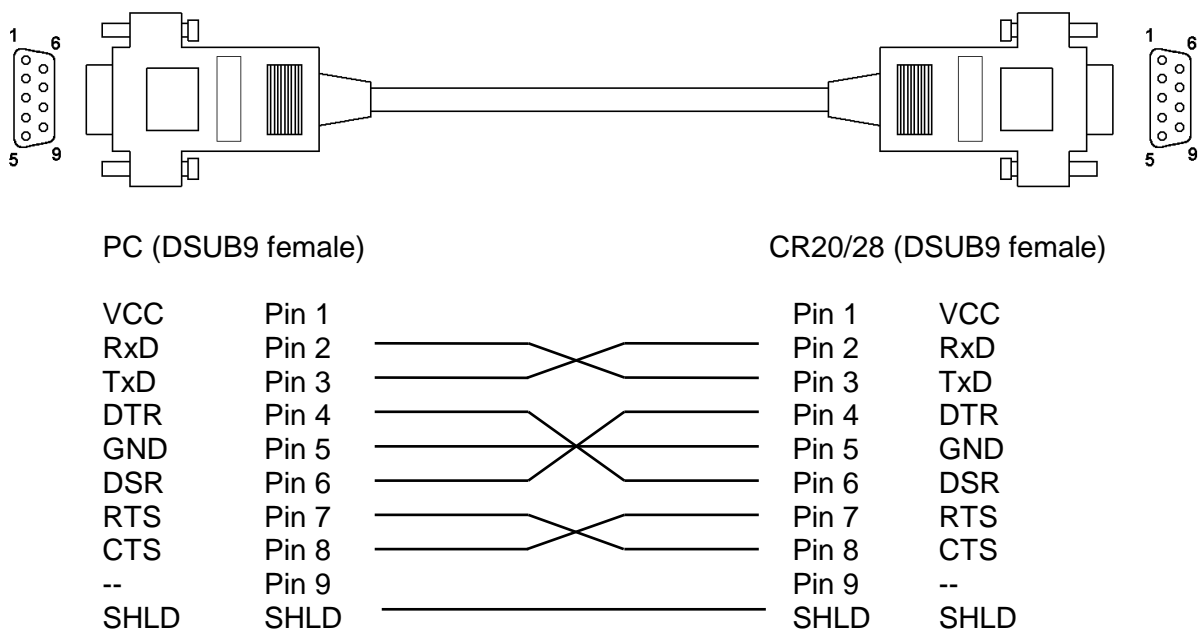
2.5.2 Connection to PC

The CR 20/28 or CR 21/29 can be connected to a PC for programming, reporting and back-office. QUORION offers a small software tool, called QProg, for this purpose. The connection can be established via RS232 or USB.

Connection via RS232

By default RS232 port 1 is prepared for PC communication with 57600 baud. Please note that you will need an adapter cable from the RJ45 connector of the CR 20/28 or CR 21/29 to DSUB-9 on PC (see chapter 2.5.3). If your PC does not have an RS232 port, you may use a Serial-to-USB converter or the direct USB connection.

For the RS232 connection you need a standard 9-pin cross wired cable with female DSUB connectors which have all signals connected.



Connection via USB

If you want to use USB, you need to install a driver on your PC first. This driver will create a virtual COM port in your Windows system. Please follow these steps to install:

- First install the driver VCPDriver_V1.1_Setup.exe on your PC
- Then connect your Cash Register and your PC with a standard USB-cable
- Switch on Cash Register
- The installation of the driver runs automatically
- In the Windows Device manager the USB connection is associated as a virtual COM-Port

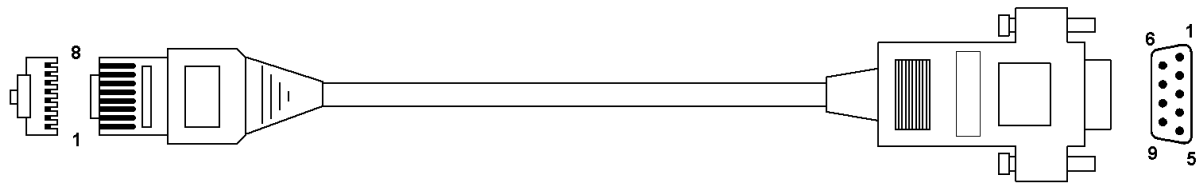
Please note, that system parameter 1 in the cash register (PC port) has to be re-programmed to 16 for USB communication. This will activate the USB communication, but de-activate RS232 for PC. The communication between PC and CR 20/28 or CR 21/29 will run with 12 MBit/s (USB full speed).

For the USB connection you need a standard USB adapter cable with a series A to series B connector.

2.5.3 Adapter Cable for RS232

To connect standard peripheral devices you will need an adapter cable from the RJ-interface of the CR 20/28 or CR 21/29 to the D-SUB connector of the external device. Connect the original cable of the device to the D-SUB connector of the adapter and put the other end of the adapter in the interface socket.

You can order the special adapter cable from your local QUORION dealer. If you want to make the connection by yourself, please note the following specifications:



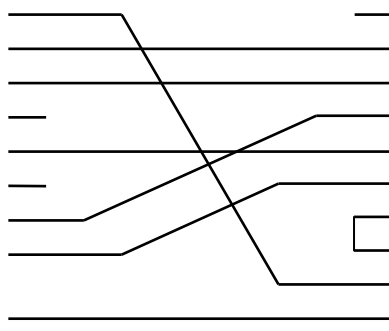
QMP (RJ45)

VCC
RxD
TxD
DTR
GND
DSR
RTS
CTS

SHLD

Pin 1
Pin 2
Pin 3
Pin 4
Pin 5
Pin 6
Pin 7
Pin 8





SHLD











CR20/28 (DSUB9 male)


















Pin 1 --
Pin 2 RxD
Pin 3 TxD
Pin 4 DTR
Pin 5 GND
Pin 6 DSR
Pin 7 RTS
Pin 8 CTS
Pin 9 VCC
SHLD SHLD

2.6 Keyboard

 RECEIPT	 CURSOR	 CURSOR	CLERK #	NS #	
X R-X-Z-M-P	NEW PRICE	PLU TYPE	P/O CAPS	R/A HEX	- % SYS
7	8 ABC	9 DEF	3 C	6 F	REFUND PRINT
4 GHI	5 JKL	6 MNO	2 B	5 E	VOID DATE
1 PQRS	2 TUV	3 WXYZ	1 A	4 D	EC TIME
0	00	,	CLEAR	SUB TOTAL	CASH ENTER

2.6.1 Names of Keys and their Function

Key label	Key name	Key function
 	Numeric Keys	- used to enter numbers - used to enter letters in P-mode
	Receipt Feed	- advances the receipt paper
	Clear	- clears incorrect entries and stops the error alarm
	Error Correction	- deletes the last registration
	Void	- voids a previously entered transaction
	Clerk	- used to enter a preset clerk ID numeric code no.
	PLU Price Entry	- used to manually change a preset PLU price

Key Label	Key Name	Key Function
	Multiplication	- used to enter multiplications - used to switch the operating mode of the cash register
	PLU	- used to access preset PLU items
	Department	- used to enter items to the respective departments
	Received on Account	- used to record payments to the drawer
	Paid Out	- used to record payments out from the drawer
	Percent Plus	- used to add percentage values to the total
	Percent Minus	- used to deduct percentage values from the total
	Coupon Key	- used to deduct fixed amounts from the total
	No Sale	- prints a reference number / opens the cash drawer
	Sub Total	- calculates sub total - prints out receipt copy if no receipt opened
	Cash Payment	- used to tender payments in cash
	Card Payment	- used to tender payments with credit cards
	Shift Key	- shift department key levels - shift PLU key levels
	Foreign Currency Exchange	- calculate amounts in foreign currency
	Receipt Hold	- temporarily holds a sale to be recalled later
	Receipt On/Off	- receipt printer can be switched on or off
	Scroll Cursor	- used to scroll the display selection by one line

3. Getting Started

Place the CR 20/28 or CR 21/29 on a stable or even surface. Use it only within the operating temperature range (see technical data) and protect it from splashes and high humidity.

The CR 20/28 or CR 21/29 comes with an external power supply. First, please check if the specifications printed on the label fit your local voltage. If so, connect the power pack to the CR 20/28. The power plug is at the rear next to the interfaces. Now connect the power supply with the power circuit and turn on the CR 20/28 or CR 21/29 with the main switch.

The CR 20/28 or CR 21/29 will now load the operating system and automatically launch the cash register program. You may immediately start working with your new system.

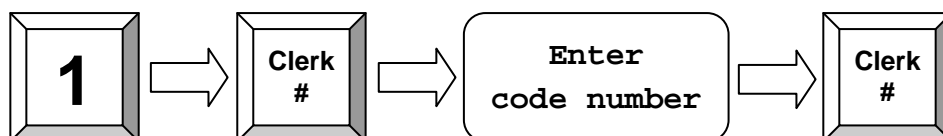
4. Sign in and Register

4.1 Sign in a Clerk Person

A clerk is the person who is working on the point-of-sale and performing registrations. Before starting any transaction, it is necessary to sign in a clerk. Now all sales and actions can be assigned to each single clerk in the reports. Furthermore, it is possible to define individual access rights for each clerk (e.g. for refund or program modifications).

To sign in with the keyboard it is necessary to have a dedicated clerk button on the keyboard. If you push this key, you will see a list of all programmed clerks. Use the scroll keys or enter a number to select a certain clerk. Alternatively, you may also enter the clerk number directly on the clerk button or define a dedicated key for each clerk. Depending on the programming, it may be necessary to enter an additional code number to sign in.

Example:

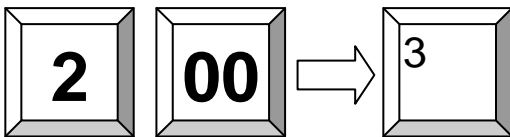


4.2 Register a Department

Department keys may be used either to enter free prices or to select PLU's from a list. If you press a department key without entry, you will see a list with all PLU's which are linked to that department. Use the scroll keys or enter a number to select a certain PLU from that list.

If you wish to register an undefined price for a department, just enter the price with the numeric keys and press the respective department key.

Example: Register 2.00 EUR in department 3:



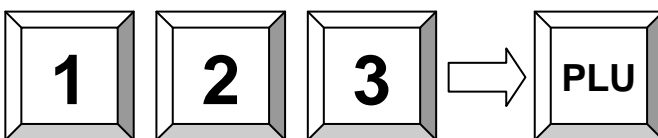
CUSTOMER LOGO	
1 Department	2,00
<hr/>	
1 Total	2,00
CASH	2,00

4.3 Register Pre-Programmed PLU's

Pre-programmed PLU's are registered by entering the respective number on the PLU key. The pre-programmed price and the description are now read from memory. Alternatively, you may also program direct keys for certain PLU's on the keyboard. You only need to press one key for registering a PLU.

If you are working with scan codes, you may either enter the code number by keyboard or use a barcode scanner. In that case, you do not need to press any additional key – the PLU will be registered directly.

Example: Register PLU number 123:

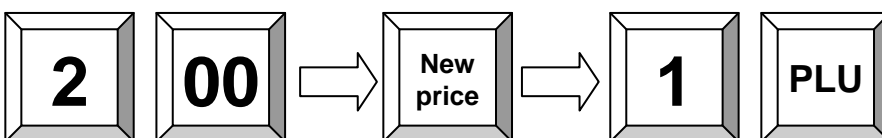


CUSTOMER LOGO	
1 PLU23	5,00
<hr/>	
1 Total	5,00
Cash	5,00

4.4 Enter a New Price

It is possible to change the price of a PLU for a transaction. Simply enter the new price and press the key "New price" before entering the PLU. This is valid for both scanning as well as manual entry.

Example: Register PLU number 1 with new price of 2.00 EUR:



4.5 Create a PLU during the Sale

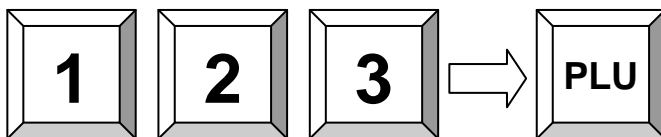
Occasionally, a clerk may have to enter a new item, which has not been programmed in the data base of the POS. If this happens, the CR 20/28 or CR 21/29 / QTouch² will automatically prompt you to create this item. Press the “Sub total” key to confirm or the “Clear” key to exit the prompt.

Once confirmed the CR 20/28 or CR 21/29 will ask you for the price. Upon entry of the price, press the “Sub total” key again to confirm. Then enter the department to which the PLU is linked and press Subtotal to confirm.

If the system has been programmed to allow for the creation of new PLU names during registration, you will be asked to enter a name for the PLU. Alternatively, the PLU will assume the name of the department that it is linked to.

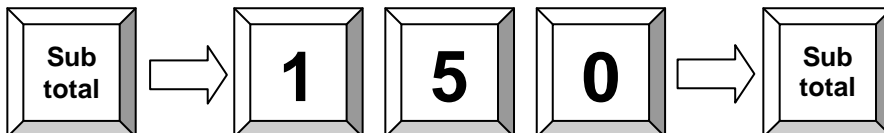
After confirmation with the Subtotal key the new PLU will be stored in memory for future transactions.

Example: Create PLU number 123 – Coke – with price of 1.50 EUR, linked to department 3:

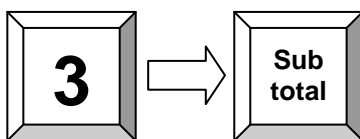


If the PLU is not yet programmed, you will be prompted to create it now:

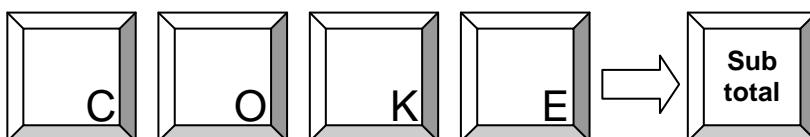
1. Confirm and enter the price:



2. Enter the department link:



3. Enter the PLU name via keyboard (depends on programming):



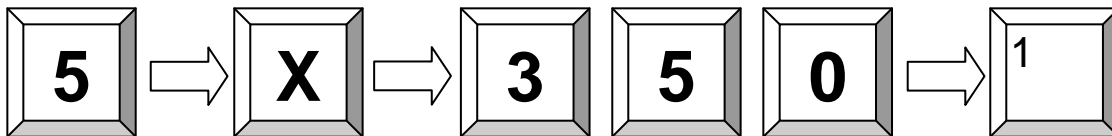
4.6 Multiplication/Division

Instead of pressing the same item repeatedly, you may use the “Multiplication” key. First, enter the quantity to be rung up, followed by the “Multiplication” key and then the item.

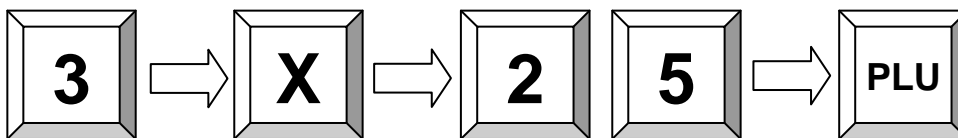
Depending on the programming, the “Multiplication” key can also be used for division. First enter the numerator and press the “Multiplication” key. Now enter the divider and press “Multiplication” again. Finally, select the corresponding PLU or department.

CUSTOMER LOGO	
5 Department 1	17,50
3 PLU 25	3,00
3 4912345678901	3,00
0.2 PLU 2	1,20
<hr/>	
11.2 Total	24,70
Cash	24,70

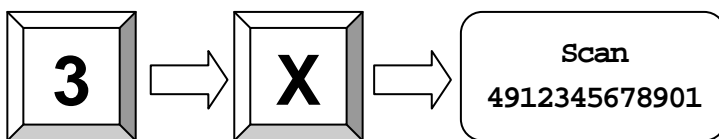
Example: Register 5 x 3.50 EUR in department 1:



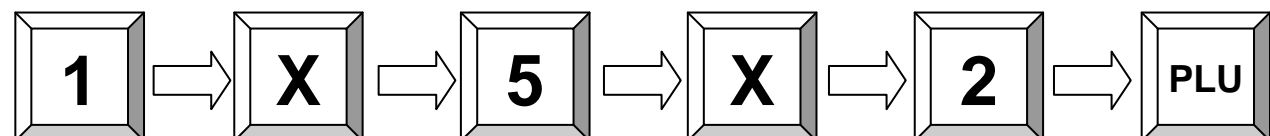
Example: Register 3 x PLU 25:



Example: Register 3 x the scan code 4912345678901:



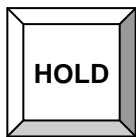
Example: Register 1/5 of PLU 2:



4.7 Holding a Sale

The Hold function is used to temporary save an open receipt, e.g. because a customer has to stop the registration of his items and you wish to tend on the next customer. Press the “Hold” key to save the open receipt. By pressing the “Hold” key again and the old receipt will be recalled.

Please note that all transactions on hold must be closed before a Z-report can be performed!



CUSTOMER LOGO		
1	PLU 1	0,10
<hr/>		
1	On Hold	0,10

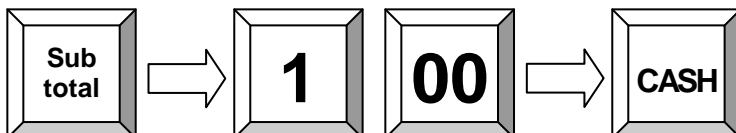
CUSTOMER LOGO		
1	Recall	0,10
1	PLU 2	0,20
<hr/>		
2	Total	0,30
Cash		0,30

4.8 Tendering in Local Currency

Any sale will be closed by entering a payment media key. There are keys for various tenders programmed on the keyboard, usually CASH, CHECK and CARD. Additional tenders may be programmed if necessary.

It is recommended to press the “Subtotal” key before tendering, to have the possibility to check the subtotal and to enter the tendered amount. The CR 20/28 or CR 21/29 will then automatically calculate the change owed to the customer.

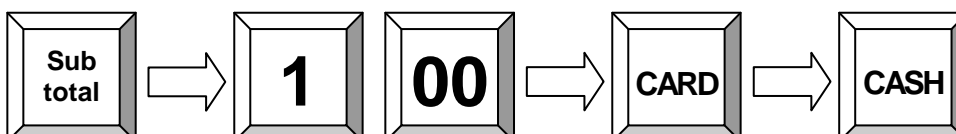
Example: 1.00 Euro CASH payment:



Generally, it is also possible to split the subtotal to different tenders. After each tender the CR 20/28 or CR 21/29 will show the short amount on the display.

CUSTOMER LOGO		
2	Cola	0,40
		0,80
<hr/>		
2	Total	0,80
Tendered		1,00
Cash		0,80
Change		-0,20

Example: 1.00 Euro CARD payment, short CASH payment:

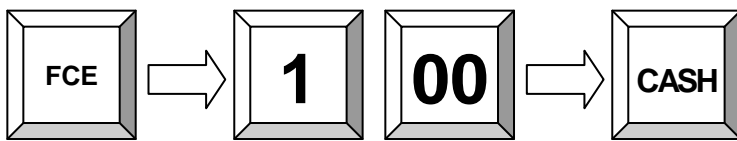


4.9 Tendering in Foreign Currency

In addition to the local currency the CR 20/28 or CR 21/29 can operate with different foreign currencies, which are saved separately in the reports.

Just press the “FCE” key instead of Subtotal to convert the total amount in a pre-programmed foreign currency. On the display the new amount in foreign currency will now appear. Select a tender as described above and the change amount will be calculated either in local or in foreign currency, depending on programming.

Example: 1.00 Dollar CASH payment:



CUSTOMER LOGO		
2 Cola	0,40	0,80
<hr/>		
2 Total		0,80
USD		
Tendered		1,00
Cash		\$0,96
EUR		
Change		-0,03

4.10 Receipt On/Off and Receipt Copy

If a receipt does not have to be printed at all, you may switch off the receipt printer by pressing the “Receipt on/off” key. To reactivate the printer, simply press the “Receipt on/off” key again. In any case you can print a receipt copy by pressing the “Sub total” key after a sale.

4.11 Time and Date

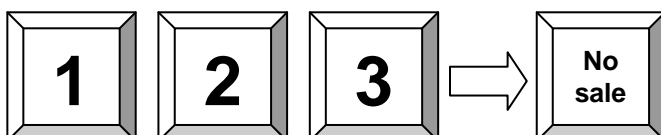
If all receipts are closed, you can view the current time and date in the display by pressing the “Multiplication” key. Depending on the programming this information will be shown automatically after a certain time has passed. All models with graphical display can also show a programmable customer logo.

4.12 No Sale / Open Drawer

The No Sale function allows you to open the cash drawer without registering a sale. You can check the number of times a No Sale function has been performed in the reports.

The “No sale” key can also be used as a reference key. To print a specific reference number on a receipt, enter the reference number and press the “No sale” key.

Example: Enter reference number 123:

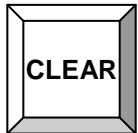


CUSTOMER LOGO		
1 PLU 1		0,10
Number :		123
<hr/>		
1 Total		0,10
Cash		0,10

5. Corrections

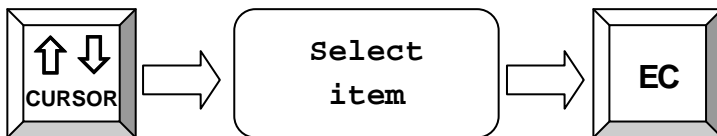
5.1 Clearing of Inputs and Error Messages

To erase an incorrect entry not yet registered, and to clear any error messages just press the "Clear" key.



5.2 Error correction

The "Error Correct" key (EC) is used to clear the last item immediately. Alternatively you may use the scroll keys to select another item from the actual receipt for voiding.



CUSTOMER LOGO	
1 PLU 1	0,10
1 PLU 2	0,20
EC	
-1 PLU2	-0,20
<hr/>	
1 Total	0,10
Cash	0,10

5.3 Void Function

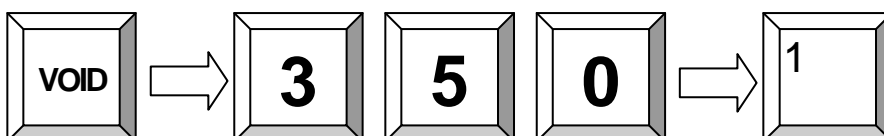
The "Void" function is used to clear certain items from the current receipt. First press the "Void" key and then enter the item which should be cleared. You can also use a barcode scanner to enter the item number.

Example: Void PLU with scan code 4912345678901:



CUSTOMER LOGO	
1 PLU 1	0,10
1 PLU 2	0,20
VOID	
-1 PLU1	-0,10
<hr/>	
1 Total	0,20
Cash	0,20

Example: Void 3.50 EUR from department 1. Please note that only those amounts can be voided, which were previously entered.



5.4 Refund

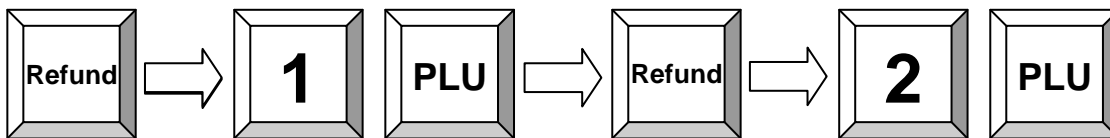
A refund is used to return previously sold items. The PLU's will be added to the stock and the money is returned to the customer. The turnover in the reports will be corrected.

To refund an item, press the "Refund" key first and then the item to be returned. The "Refund" key has to be pressed before each item, if more than one item is being returned. After refund the receipt can be continued with normal sales or can be closed with a payment media.

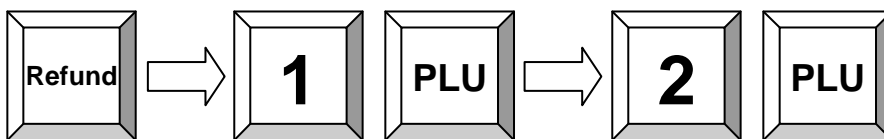
CUSTOMER LOGO	
REFUND	
-1 PLU 1	-0,10
REFUND	
-1 PLU 2	-0,20

-2 Total	-0,30
Cash	-0,30

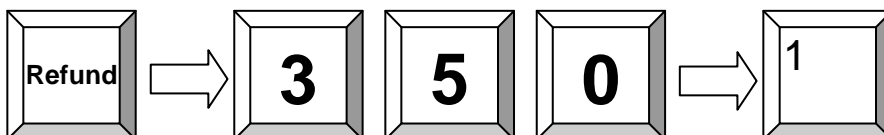
Example: Refund of PLU 1 and 2:



Example: Exchange of PLU 1 and 2:



Example: Refund of 3.50 EUR from department 1:

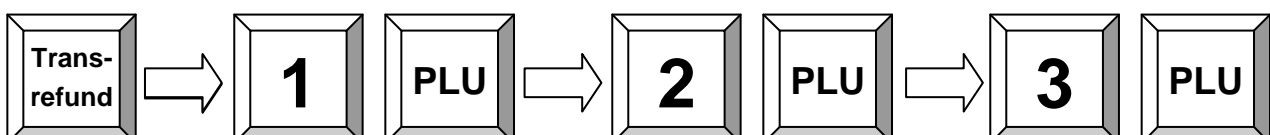


5.5 Transaction Refund

The function "Transaction refund" operates just as the "Refund" function. The difference is that the does not automatically return to normal sales mode after each item, but stays in refund mode until you finish the receipt with a payment.

Press first the key "Transaction Refund" and then enter all items which should be returned. Please note that it is not possible to switch into normal sales mode.

Example: Refund of PLU 1, 2 and 3:



5.6 Transaction Cancel

The "Transaction cancel" is used to void a complete receipt before it is finalized with a payment. Simply press the key "Transaction cancel" to automatically void all items from the current receipt.

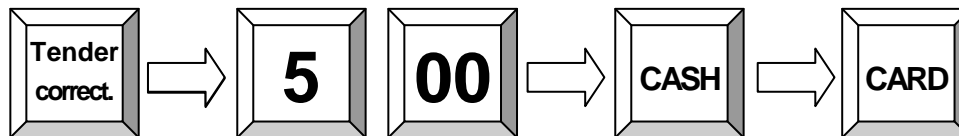
5.7 Tender Correction

With the function "Tender Correction" you may change any amount from one payment media to another.

First press the key "Tender Correction", enter the desired amount and then select the payment media from which this amount should be rebooked. Now, the amount is opened again and can be assigned to any other payment. It is also possible to split the amount to more than one payment media.

CUSTOMER LOGO	
Tender correction	
Cash	-5,00
Card	5,00

Example: Rebook 5.00 EUR from CASH to CARD:



6. Discounts, RA and PO

6.1 Percentage Discount/Surcharge

Discounts are price deductions on single items or on the sub total of the receipt. To enter a discount, first ring up the item, then enter the discount percentage and press the "%(-)" key. If the discount should be valid for the entire receipt, press the "Subtotal" key first and then enter the percentage on "%(-)" key.

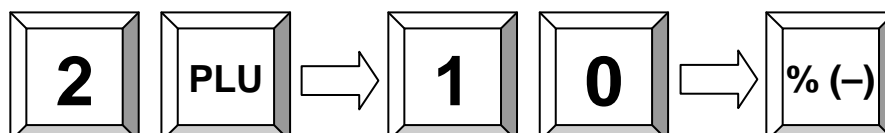
Likewise discounting items is also possible to order surcharges. In that case please use the function "%(+)"

In both cases the percentage values can be pre-programmed to avoid mistakes and manipulation. Furthermore, it is possible to block single or subtotal discounts and to set maximum limits.

CUSTOMER LOGO	
1 PLU 1	10,00
1 PLU 2	5,00
-10% Rabatt	-0,50

2 Total	14,50
Cash	14,50

Example: Percentage discount of 10% to PLU 2:



6.2 Amount Discount/Surcharge

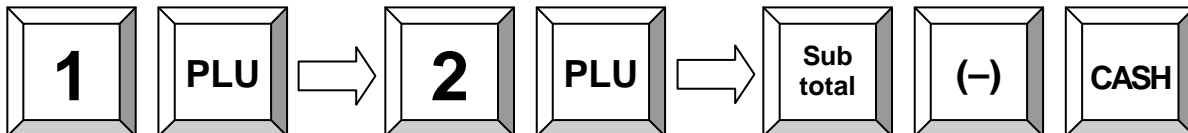
Similarly, it is possible to use amount rebates. The only difference is that no percentages are calculated but rather total amounts such as coupons are subtracted/added.

Enter the amount directly after the item or the subtotal and press the “(-)” or “(+)” key to subtract or add the entered amount from/to the actual price. Amount discounts and surcharges can be pre-programmed or blocked in the same way as percentage rebates.

CUSTOMER LOGO	
1 PLU 1	10,00
1 PLU 2	5,00
COUPON	-1,00

2 Total	14,00
Cash	14,00

Example: Discount a pre-programmed COUPON amount from the total:

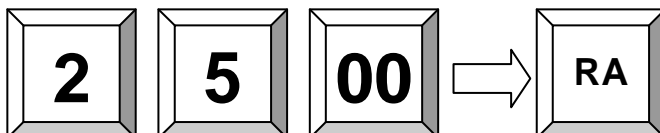


6.3 Received on Account / Paid Out

Cash can be paid out of the cash drawer for special purposes, such as petty cash, etc. This is referred to as a “Paid Out” (PO). Conversely, cash can also be added to the cash drawer. This transaction is known as “Received on Account” (RA). Adding more cash to the cash drawer is another example of “Received on Account”.

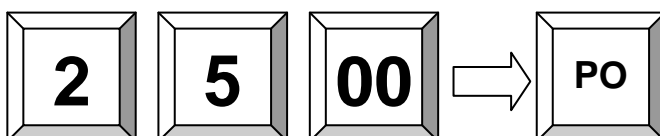
In both cases enter the amount first and then press either the key “RA” or “PO”. Depending on the programming of the the operation will be automatically finalized with the Cash key or can be continued as a normal receipt.

Example: 25.00 EUR Received on account:



CUSTOMER LOGO	
R.A.	25,00

Example: 25.00 EUR Paid out:



CUSTOMER LOGO	
P.O.	25,00

7. Using Shift Levels

7.1 PLU/Department Shift

The PLU/department shift is a preset function to switch all article- and department keys to a second level. This is done by adding a pre-programmed offset to the actual PLU or department number. Please note that the shift is valid for the very next item, it will be automatically reset after entry. It is also possible to block the shift for either PLU's or departments.

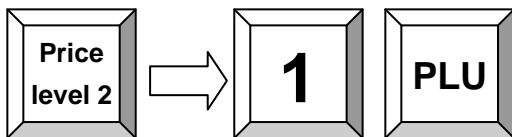
7.2 Price Shift

The CR 20/28 or CR 21/29 allows for more than one sales price for each PLU. This is a useful function for special occasions, such as Happy Hour or item promotions. You may program an automatic price shift based on a time period or manually change the price shift via key entry.

First select the price level by pressing the corresponding key. Then, enter the PLU. Depending on the programming the price level will be reset automatically after an item, a transaction or not at all. In that case you must reset the price level manually by choosing another keyboard level.

By using price levels it is also possible to realize tax shifts. In such a case the second price level has the same price but a different tax rate.

Example: Shift to price level 2 and register PLU 1:



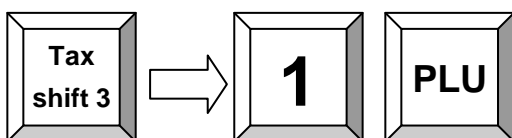
7.3 Tax Shift

As an alternative to the tax shift via price levels, there is a preset function to activate or deactivate certain tax rates directly.

Just press the corresponding "Tax" key to activate or deactivate a certain tax rate.

Depending on the programming the tax shift will be reset automatically after an item, a transaction, or not at all. In that case you must reset the tax manually by pressing the respective tax key again.

Example: Shift to tax 3 and register PLU 1:



CUSTOMER LOGO	
1 PLU 1	10,00
<hr/>	
1 Total	10,00
Tax 3	1,00
Cash	10,00

8. Reports

The CR 20/28 or CR 21/29 offer a wide range of reports to collect and monitor your sales data. All functions of the system have their own report memory in four periods. They can be checked separately as system reports or combined as free programmable user reports. The report memory of each function does not only contain the total sum, but also information about clerks and time periods.

All reports can be performed as X or Z. Both types contain the same information. The X-report can be printed as a temporary report at any time, because the report data will not be cleared. The Z-report is a final report – after printing the data, the report memory will be cleared.

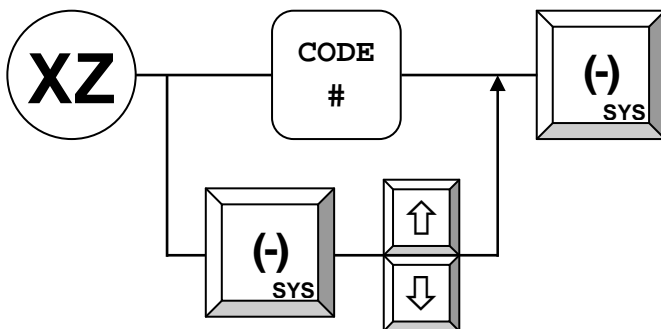
8.1 System Reports

Each function of the has its own system report, which is permanent in the software. Depending on the configuration, this report can contain different information such as customer count, quantity, and amount.

If you press the key “SYS” in mode X or Z you will receive a list of all available system reports. Now, you can select one report with the cursor keys and confirm by pressing “SYS” again. Alternatively, you may also enter the number of a system report directly on the “SYS” key.

Please note the programming of the system keys. By default the “SYS” key is located on the key “(-) Coupon”.

Flowchart:



The following system reports are available:

- | | |
|----|---------------------|
| 1 | Total Sales |
| 2 | Groups |
| 3 | Departments |
| 4 | Articles |
| 5 | Tax Totals |
| 6 | Tendering Functions |
| 7 | Drawer Totals |
| 8 | PO and RA |
| 9 | Discount Functions |
| 10 | Corrections |
| 11 | Foreign Currencies |
| 12 | Special Itemizers |
| 13 | Stock Control |

CUSTOMER LOGO

System Report

Period 1: Standard

Departments

Dept 1			
CCount			1
Quantity			2
Amount		10,00	
Dept 2			
CCount			3
Quantity			5
Amount		25,00	

X-Counter :000001

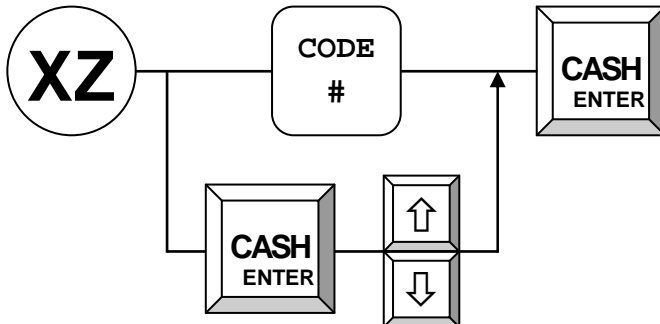
8.2 User Reports

User reports are freely programmable report lists containing several system reports. Hence, you have the possibility to create your individual reports. While programming the POS, you can define what data should be printed in the "Daily Report", for instance. Later you only need to call one user report instead of manually selecting several different system reports.

If you press the key "ENTER" in mode X or Z you will receive a list of all available user reports. Now, you can select one report with the cursor keys and confirm by pressing "ENTER" again. Alternatively, you may also enter the number of a system report directly on the "ENTER" key.

Please note the programming of the system keys. By default the "ENTER" key is located on the "Cash" key.

Flowchart:



The following user reports are pre-programmed:

- | | |
|---|------------------|
| 1 | Clerk Report |
| 2 | All Clerk Report |
| 3 | Daily Report |
| 4 | Weekly Report |
| 5 | Daily Dept/PLU |
| 6 | Weekly Dept/PLU |
| 7 | Time Zone Report |
| 8 | Stock Control |

You can define up to 10 different user reports with each up to 38 system report entries.

Generally it is recommended to use the user reports for normal report printing instead of single system reports.

CUSTOMER LOGO

Daily Report

Total Sales

Total Sales	
CCount	1
Quantity	2
Amount	10,00

Groups

Group 1	
CCount	1
Quantity	2
Amount	10,00

Tax Totals

16% Tax 1	
Gross	10,00
Taxable	8,62
Tax	1,38

Tendering Function

Cash	
CCount	1
Amount	10,00

Drawer Totals

Cash in Drawer	
Amount	10,00

X-Counter :000001-0001

8.3 Electronic Journal

The Electronic journal will log all operations by storing a copy of each receipt printout. Depending on the programming you can do this either in binary or in ASCII text format.

If you press the key “ENTER” in mode X or Z you will receive a list of all available user reports. Scrolling to the end of the list, you will find the entry “Electronic journal”. If you select this and confirm with “ENTER”, a copy of the last receipt will be printed.

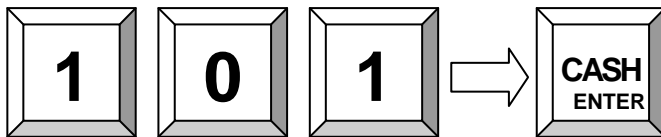
Alternatively, you may also enter one of the following numbers directly on the “ENTER” key to access the electronic journal:

- 101 – Print out the last receipt only.
- n X 101 – Print out the last n receipts.
- 0 X 101 – Print out the complete journal. If done in Z-mode, the journal will be cleared.
- 102 – Clear the electronic journal without printing (only in Z).
- 103 – Only for PC! The journal data are saved in a special csv-format.
- 104 – Print out the receipts of the active clerk only.

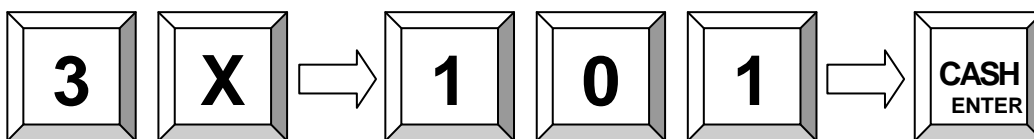
Please note the programming of the system keys. By default the “ENTER” key is located on the “Cash” key.

Examples:

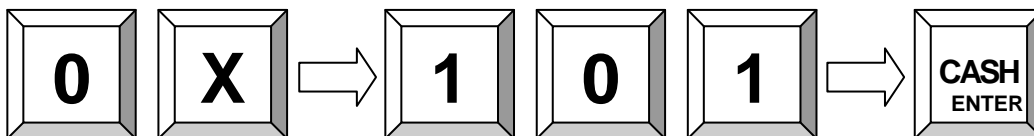
Print out the last receipt:



Print out the last 3 receipts:



Print out the complete journal:



8.3.1 Text Format

The Electronic journal is saved in normal text format. Journal data, saved in text format, can only be displayed and printed going backwards, beginning with the last receipt. Searching for a certain receipt number is not possible. The format of the printout depends on the programming. It is therefore possible to print out the journal in two or more columns to save paper. The text format is suitable for recording all transactions and reports as well as for controlling or exporting data to other applications.

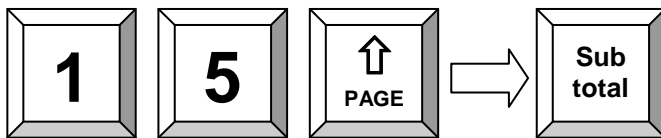
8.3.2 Binary Format

The Electronic journal is saved in binary format. Any receipt can be recalled by number for controlling purposes or print out. Please note that only sales receipts are saved. The increasing receipt number is used as reference to navigate through the journal. Reports and programming are not saved in the binary electronic journal.

To recall the last receipt, press the keys “PAGE UP” or “CURSOR UP” in mode R or M. Using the keys “PAGE DOWN” or “CURSOR DOWN” you receive the first receipt. If you want to view a certain receipt, just enter the receipt number before pressing “PAGE UP” or “CURSOR UP”. After the initial recall you may use the scroll keys to navigate through the journal entries.

If you are in manager mode (M), you can print out a copy of the activated receipt by pressing the “Subtotal” key. If you print a copy of a table invoice, the endorsement message will be added automatically.

Example: Search receipt number 15 and print out a copy:



9. Programming

The programming of the CR 20/28 or CR 21/29 is classified in two parts: configuration and file programming. First the requested functions must be activated in the configuration. This will allocate the memory for each function. Then the pre-configured functions can be filled with user data in the programming. Please note that the configuration can only be done by PC with the software QProg. It is not possible to configure the systems directly. However, the file programming can be done directly in X, Z or P mode. All functions, which were configured before, can be programmed.

This manual only gives a general overview of the programming. If you have further questions please check our website www.quorion.de for special programming manuals or ask your local QUORION dealer. He will gladly help you.

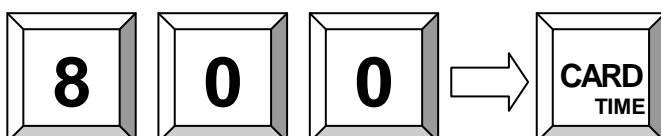
9.1 Programming of Date and Time

Programming the date and time is achieved in mode P, using the system keys “DATE” and “TIME”. By default you will find it on the function keys “Table Split” and “Invoice” at QTouch² or “CARD” at CR 20/28 or CR 21/29 series.

Enter the date in the format DDMMYYYY and confirm with the “DATE” key. The new date will be activated immediately.

Enter the time in the format HHMM and confirm with the “TIME” key. The new time will be activated immediately.

Example: Set new time 8:00 (only in P):



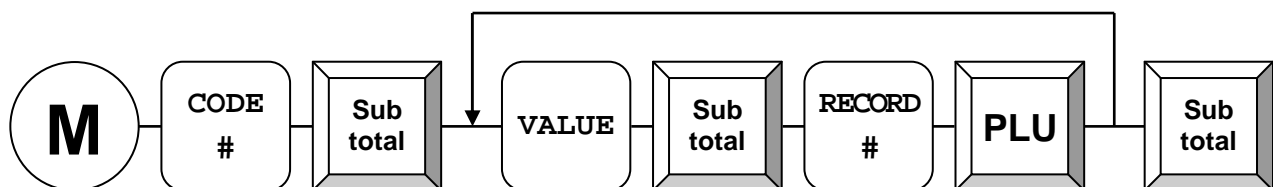
9.2 Easy PLU Programming

The easy programming of PLU's is done in manager mode (M) only. To program a PLU enter the code number of the data field you want to change and confirm with the "Subtotal" key. The following codes are available:

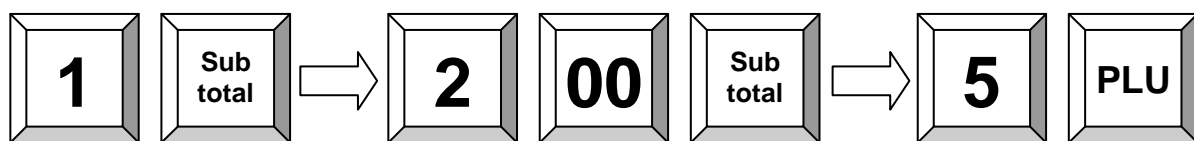
- | | |
|---|-----------------|
| 1 | Sales Price |
| 2 | Cost Price |
| 3 | Description |
| 4 | Description 2 |
| 5 | Department Link |
| 6 | Add Stock |
| 7 | Subtract Stock |
| 8 | Minimum Stock |

After selecting a data field, enter the new value, confirm it by pressing "Subtotal" again, and choose a PLU to be programmed. This can be done either by pressing a direct PLU key or by entering the number on the "PLU" key. If you want to continue programming articles, you may repeat the same steps. To finish the programming mode press the key "Subtotal" without entry.

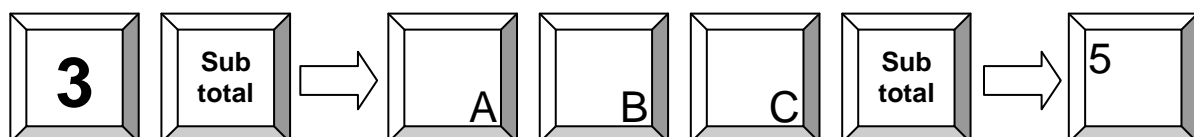
Flowchart:



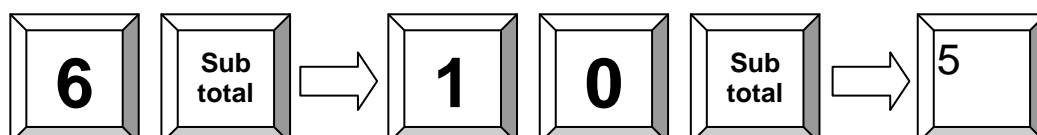
Example: Change price of PLU 5 to 2.00 EUR:



Example: Change description of PLU 5 to ABC:



Example: Add 10 pieces to stock of PLU 5:



9.3 File Programming

Start programming either by entering the file number directly on the “TYPE” key or by pressing the “TYPE” key without entry and selecting the file from the programming window. At the end of each line the file number is shown in brackets for reference.

Please note that files, which are not activated in the configuration, will not be shown. The following files are available:

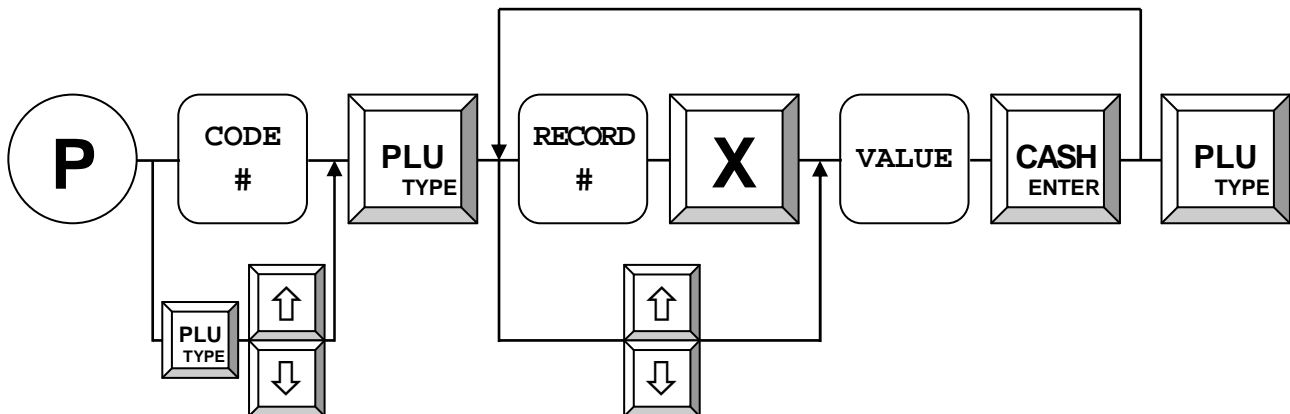
1	Parameters	30	User Reports
2	Options	31	
3	Time Zones	32	
4	Day of Week Zones	33	
5	Day of Month Zones	34	
6	Date Zones	36	
7	Receipt Header	38	
8	Receipt Trailer	39	Keyboard 1
9	Slip Header	40	
10	Slip Trailer	41	
11	General Texts	42	
12	Error Messages	43	
13	General Messages	44	Special Itemizers
14	Day Descriptors	45	
15	Month Descriptors	46	
16	Counters	47	
17	Total Sales	48	
18	Groups	49	
19	Departments	97	
20	PLU	98	Password
21	Tax	99	
22	Clerks	200	
23	Salespersons	201	
24	Tenders	202	
25	Drawers	205	
26	PO/RA	206	
27	Discounts	210	
28	Corrections	305	Print program version
29	Foreign Currencies	306	Init printer logo

When the file has been selected, the first record will automatically be displayed. You can jump to another record by entering the record number on the “Multiplication” key. Pressing the “X” key without entry will select the next record.

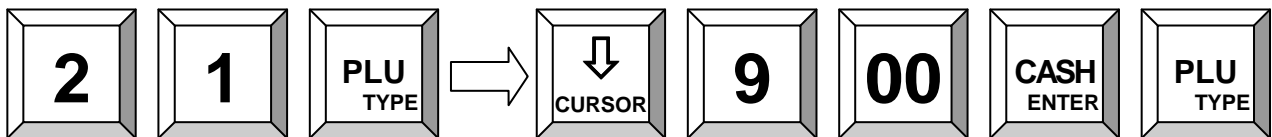
The data field to be programmed can be selected by the cursor keys “PAGE UP”, “CURSOR UP”, “PAGE DOWN”, “CURSOR DOWN”. When the field is selected just input the new data and confirm with “ENTER”. When a field was modified, the new programming is automatically printed.

If you want to continue programming files, you may repeat the same steps. To finish the programming mode press the key “TYPE” without entry.

Flowchart:



Example: Change tax rate 1 to 9.00 %:



9.4 Scanning

When scanning codes are activated in the configuration of the application it is possible to create and/or delete items on the cash-register either in Program Mode or during transaction when an item is not found. Furthermore there are some special maintenance procedures which can be activated in Manager or programming mode.

It is possible to connect two scanners to the register. You can activate them by programming parameter 56 & 57 also check option# 78 for check digit verification when scanning.

CREATING ITEMS in Transaction Mode

When Option#79 is set the register will prompt for creation of an article when not found. If you want to create it you must confirm by pressing the SUBTOTAL key or abort by pressing CLEAR (Note that you can press the CLEAR key at any stage to abort!!). The register will now prompt for:

- 1 - The PRICE which you must enter on the SUBTOTAL key
- 2 - The Department which you must enter on the SUBTOTAL key
- 3 - The Descriptor when Option# 80 is set which you must enter on the SUBTOTAL key
- 4 - Now the article is registered.

Note: From Release XX030605 on it is also possible to enter the PRICE directly on a fixed DEPARTMENT key instead of entering the price and department on the subtotal key.

CREATING ITEMS in Program Mode

When you are in Program Mode# 20 (PLU programming) you can scan the code or enter the code on the X key. When not found the register will ask you for creation which must be confirmed by pressing the CR (User Report) key.

DELETING ITEMS in Program Mode

When you are in Program Mode# 20 (PLU programming) can also delete codes. When you enter ZERO on the X key the register will ask you if you want to delete the current code which must be confirmed by pressing the CR (User Report) key. Note that the records are only marked for deletion so they will only free up their space after PLU FILE MAINTENANCE.

PLU FILE MAINTENANCE

When using scan codes the register uses internally an INDEX file which is sorted so the register can find a code very fast. Because the PLU file can grow very large (max 50000) when using scan codes the register will store the newly created articles in a separate UPDATE file which is located at the end of the PLU file. The maximum size of the UPDATE file is HALF of the FREE SPACE in the PLU file. When for example the free space is 100 you can create 50 new items before the register will give the message to re-index the file. After re-indexing the file the remaining free space is 50 so you can again create 25 new articles. You can continue until the free space is only 1 record.

Note that is important that the UPDATE file doesn't grow to large (over 1000 articles) because this will have effect on the speed of creating new articles.

For maintenance of the PLU file there are the following commands:

100 – MERGE and DELETE

This command will MERGE the UPDATE and the BASE FILE and DELETE the articles marked for deletion. This command can be used when new item are created and items were deleted.

101 – MERGE

This command will MERGE the UPDATE and the BASE FILE. This command can be used when only new item are created.

102 – DELETE

This command will DELETE the articles marked for deletion. This command can be used items were only deleted.

103 – CHECK STATUS

This command will print and display the number of articles in the BASE and UPDATE file.

255 – CLEAR COMPLETE PLU FILE

This command will clear the complete PLU file. Note that PLU sales and inventory information is also cleared.

The command can be issued in programming mode on the TYPE key and in MANAGER mode on the SUBTOTAL key. Note that COMMAND 255 to clear to complete PLU file is only available in PROGRAM MODE.

PLU'S WITH SCANCODES ON KEYBOARD

When using scan codes it is also possible to put a PLU directly on the keyboard of the register. Because the key code as programmed in the key table contains the record number in the PLU Index file and not the scan code there are a few points you must keep in mind.

1 – PLU File Maintenance

Maintenance of the PLU file like creating and/or deleting PLU's should be done either on the computer OR on the register but NOT ON BOTH because this will result in different Index files for the computer and register.

2 – Programming PLU keys in WQPROG

When programming PLU keys in WQPROG you must enter the scan code in the code field.

3 – Programming PLU keys on the Register

When programming PLU keys on the register you must enter the scan code in the key-programming mode. The register will automatically insert the correct index record number in the key table. The register will recognize the entry as a scan code when MORE then 5 digits are entered. Normal key codes have a value of maximal 5 digits. This means that when you want the program a PLU with scan code "123" you MUST enter "000123". Suppose this PLU is located at record number 5 the register will put 10005 as key code which is also shown on the display. When you enter "123" the register will program key code "123".

USING PLU'S WITH SCANCODES IN COMBINATION WITH BALANCES

On the Balance the Index Number of the PLU is stored so at the moment it is NOT ALLOWED to create or delete PLU when there are still balances open because the sequence of the index file will be changed which will result in wrong PLU on invoices.

9.5 Program Version and Test Routines

The CR 20/28 or CR 21/29 have a set of test routines built-in to check certain hardware components and receive information about the installed drivers and software version.

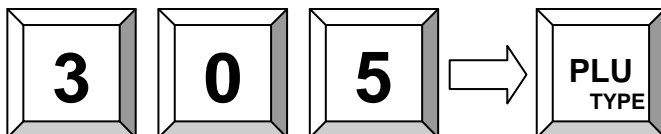
Enter the test number in mode P and confirm with the key "TYPE". Please note the programming of the system keys. By default the "TYPE" key is located on the key "PLU".

The following test routines are available:

- 302 Display Test
- 305 Print out Program Version
- 306 Init printer
- 400 Transaction Test Direct Sale
- 401 Transaction Test Tables


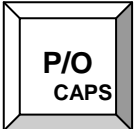
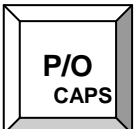
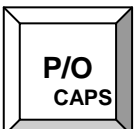
```
-----
F: 1v-WE
P: G0091009
C: CR 20
RAM: 8192K
SERIAL#: 1234567
MAC: 00 16 4B 00 01 0D
-----
```

Example: Print out the actual software version (only in P mode):



9.6 How to enter letters in P mode

To enter letters at the CR 20/28 or CR 21/29 you have two different possibilities, either the traditional way using hexadecimal codes or the new way using the numeric keys like a mobile phone. By default the hex code system is active. Press the CAPS key repeatedly to switch to the following input modes:

Key	Input mode	Display CR 20/28	Display CR 21/29
	Hex code small letters	<i>dEFAULt</i>	default
 ↓	Hex code capital letter	<i>CAPS</i>	caps
 ↓	Mobile mode small letters	<i>70b1 LE</i>	mobile
 ↓	Mobile mode capital letters	<i>70b1 LE_CAPS</i>	mobile caps

Please note the programming of the system keys. By default the “CAPS” function is located on the “P/O” key. This can be changed by user programming.

9.6.1 Enter letters using hex codes

First select the letter you want to program in the code chart below. Find out the corresponding hex code by combining the row number with the number of the column.

For example: letter L: row 4, column C → hex code: 4C.

Enter the hex code using numeric and department keys:

Hexadecimal codes 0...9 = numeric keys 0...9.

Hexadecimal codes A...F = department keys 1...6

Press the HEX key after each entry to convert the hex code to the corresponding letter. After that you may continue with the next hex code.

Please note the programming of the system keys. By default the “HEX” function is located on the “R/A” key. This can be changed by user programming.

Example: Enter letter L

Key	Function	Display
	Enter number 4 using numeric keys.	4
	Enter hexadecimal number C using department keys.	C
	Convert hex code 4C to letter L.	L

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2	Space	!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	Ä
8	€		II	III	IV					↑	↓					
9																
A		ı	ç	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
B	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Code chart for Western Europe

9.6.2 Enter letters using mobile mode

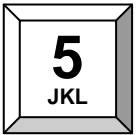
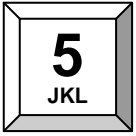
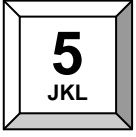
The numeric keys have got an additional functionality to enter letters. This feature becomes active when the mobile mode is selected. See above.

To enter a letter just press the appropriate numeric key 1 – 9 repeatedly until the character you want appears in the display. If you do not press the key again after 1 second the actual letter will be confirmed and the cursor goes to the next position.

Please note that the numeric display can only show abstract icons for the characters. The keys are defined as follows:

Numeric key	Characters	Display CR 20/28	Display CR 21/29
7	Space		
8	A B C Ä 8	A b c d 8	A B C Ä 8
9	D E F 9	d E F 9	D E F 9
4	G H I 4	G H I 4	G H I 4
5	J K L 5	J K L 5	J K L 5
6	M N O Ö 6	M N O Ö 6	M N O Ö 6
1	P Q R S 1	P Q R S 1	P Q R S 1
2	T U V Ü 2	T U V Ü 2	T U V Ü 2
3	W X Y Z 3	W X Y Z 3	W X Y Z 3

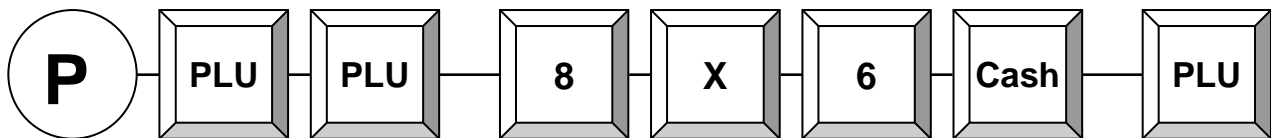
Example: Enter letter L

Key	Function	Display
	Press numeric key 5 to get the first letter J.	J
	Press numeric key 5 again within 1 sec to get letter K.	K
	Press numeric key 5 again within 1 sec to get letter L.	L

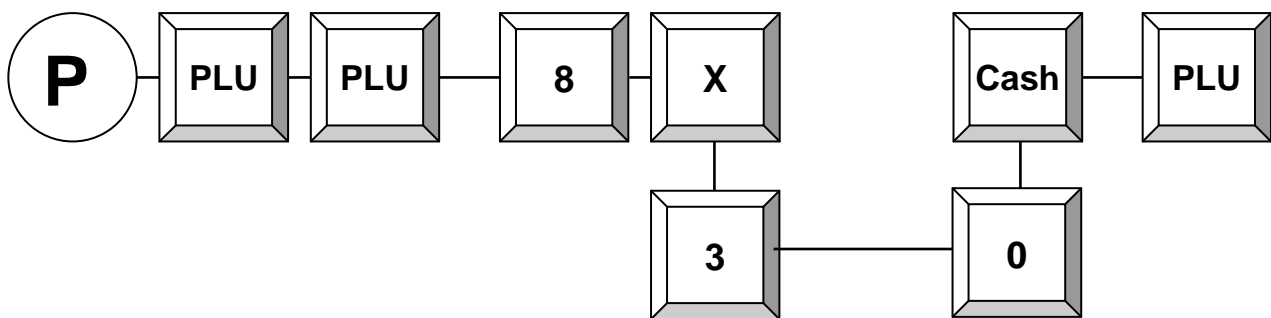
9.7 Auto Power Off Function

This function is used for Battery Mode to save the Battery power. The Cash Register turns off automatically after a personal adjusted time. You can choose between 10 seconds to 40 minutes in 10 seconds steps.

Example for Auto Power Off in 1 minute = 60 seconds:



Example for Auto Power Off in 5 minutes = 300 seconds:



10. Training Mode

The training mode is used to test all functions of the CR 20/28 or CR 21/29 without adding the turnover to the reports. The report memory will not be changed and all counters remain constant. Please note that in this mode all receipts will be automatically marked as „Training“.

In order to access the training mode, a pre-programmed training clerk must be signed-in. Training mode will remain activated until a new clerk is assigned. You will have full access to all registration and programming functions for testing and training purposes.

11. Instructions for Use

11.1 Power Supply and Interfaces

Please use the delivered power supply for the CR 20/28 or CR 21/29 only. The usage of other power supplies may damage your system. No liability is accepted for such damages.

The interface connections should only be plugged if the system is switched off. Please note also the maximum cable lengths of 5 meters for USB and 15 meters for RS232.

11.2 Service and Maintenance

The CR 20/28 or CR 21/29 do not contain any components, which can be serviced or repaired by the user. Please have all maintenance performed by a qualified QUORION dealer. Unauthorized manipulations may lead to a loss of warranty.

12. Error Messages

ID	Error Description
1	Invalid Entry
2	Invalid Time
3	Invalid Date
4	Invalid Article
5	Unknown Report
6	Invalid Function
7	Transbuf. Full
8	Still in Transaction
9	User Break
10	No Under/Tender
11	Still in Tender
12	Scanning Error
13	Select Clerk
14	Select Salesperson
15	Item not Sold
16	No Price Entered
17	No Zero Price
18	Closed Drawer
19	Manager Required
20	Entry to High
21	Discount not Allowed
22	Correct not Allowed
23	Already Discounted
24	Enter Quantity
25	Journal Full
26	Enter Balance #
27	Invalid Balance
28	Wrong Clerk
29	Closed Balance
30	Print Invoice
31	Receipt Paper End
32	Journal Paper End
33	Slip No Paper
34	Logging Error
35	KP Error
36	Balance not Open
37	Invoice Buffer Full
38	Balance Used
39	PLU File Full
40	Reindex PLU File

13. Information on the Electromagnetic Compatibility and Safety

CE Conformance

This QUORiON cash register conforms to the European Community's EMC 2004/108 and 2006/95 directive. The cash register fulfills the following technical European requirements:

- EN 55022: "Norm values and measuring procedures for radio interference properties characteristics of information technology devices"
- EN 55024: "Norm values and measuring procedures for the interference resistance properties characteristics of information technology devices"
- EN 60950: "Security measurements for the installation of IT"

A "conformance explanation" in accordance with the directives and standards cited on top has been delivered and can be reviewed with

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99195 Erfurt
(Email: rd@quorion.de; web: www.quorion.de)

REMARK: If the cash register is installed in a system with other devices and components, all other devices and components must each show EMC conformance to the norm. According to the EMC 2004/108 directive as well as EC and national laws, the system integrator is responsible to ensure that the built system complies with regulations

14. Accumulator (Battery)

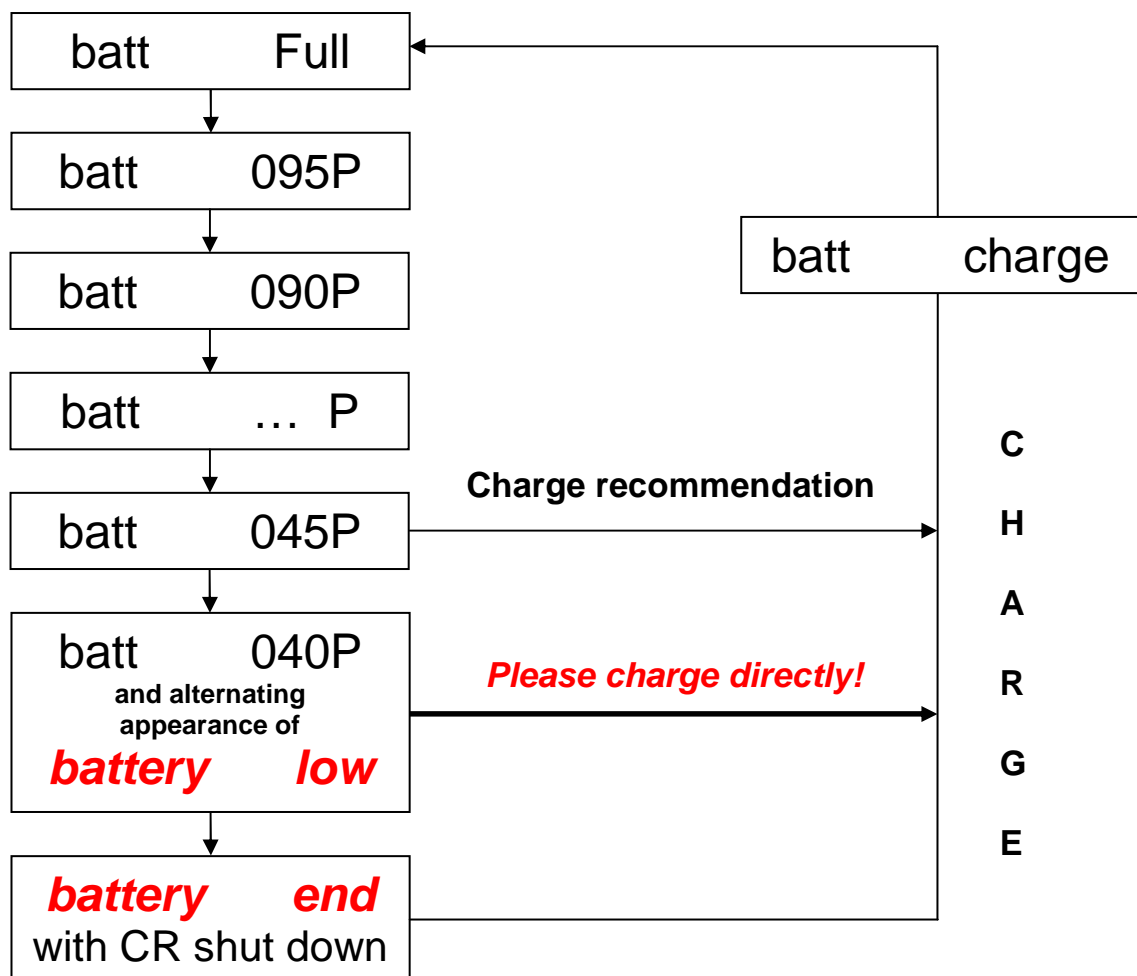
Please run the ECR only with plugged in power adapter! The battery is just for ensuring the power supply in case of a sudden blackout for a certain time.

1. The maximum battery charge is reached after 3- 4 hours of recharge time.
2. The capacity is sufficient for normal operation anywhere from 3 to 8 hours, depending upon quantity and size of printed receipts (**Standard**: 5h with 60 receipts, 15 lines each in turn with 16 characters).
3. The display-message "**Battery Low**" indicates, when the end of the normal operating time is reached, so please charge the battery. If the cash register is in operation in the moment, the message "**Battery Low**" will be shown for 2 seconds every 5 seconds in the display.
4. With the display-message "**Battery End**" the cash register automatically shuts down at the end of the reserve operating time.
5. Forced shut down due to low battery power protects the battery from being completely discharged.
6. At the end of the reserve operating time (roughly 0.5 hours) it is possible to turn the cash register back on after it has been turned off and recharged for 10-30 minutes.
7. Cash register operation is permitted during recharging. Although the recharge time will of course be longer. The message "**Battery Charge**" in the battery status display indicates the recharge process. With the message "**Battery Full**" the recharge process has ended.
8. Recharge adapter:
 - Input: 100...240VAC / 50/60Hz
 - Output: 24VDC / 1A
 - Connection: Hollow plug 5,5mm x 2,5mm

Special notes for the use of rechargeable cash registers

- Please charge the cash register till the battery is completely full before and after a long period of no usage.
- After heavy usage please recharge the cash register to „Battery Full“-message.
- If the message „Battery low“ is shown in the display please charge the cash register as soon as possible.
- During the battery operation please turn off the cash register immediately after usage if possible or use the Auto Power Off function (See ...) to do this automatically by the cash register.
- Please protect the cash register from direct sunlight.

Battery Power modes shown in the User Display



Note: In battery mode you can check the battery status in the display if you press shortly the ON/OFF button. Please charge battery until the display shows “batt Full”. Do not disconnect the power supply during this time.