CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

CASHMATIC

Files exchange communication

CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

INTRODUCTION

This manual describes the operations of communication with the automatic cash drawer through exchange of information via files.

We recommend you read this manual carefully as there are many new features that enable new uses and more secure applications.

If you do not understand any part of this manual, please contact Cashmatic for assistance.

HEADQUARTERS

CASHMATIC S.r.l. Via della Lama, 47 – 47922 Rimini (RN) Italia
Telefono (+39) 0541 17.96.791 Fax. (+39) 0541 17.94.301
Partita I.V.A: IT 04121320404
Email. info@cashmatic.it Web. www.cashmatic.it

ATTENTION!

Any operation not explicitly described or not expressly admitted by this manual is : ABSOLUTELY PROHIBITED

GENERAL DESCRIPTION

In order to speed interfacing Cashmatic provides a machine management panel together with the automatic cash drawer, developed for the Windows environment and based on .Net Framework 4.0

The machine management panel allows the external software to interact with automatic cash drawer through the exchange of information via encrypted text file.

The path to the write and read the files is: C:\Cashmatic\. The folder "Cashmatic" is created automatically by the management panel at its start.

GENERAL FILES DESCRIPTION

SUBTOTALE.TXT
The creation of the file "subtotale.txt" starts a new transaction.

ANNULLA.TXT
The creation of the file "annulla.txt" cancels a transaction in progress.

CHECKLEVELS.TXT
The creation of the file "checklevels.txt" returns a file "levels.xml" containing the current levels of automatic cash drawer.

SALDATO.TXT
The file is generated by the management panel and contains the partial paid amount.

PAGATO.TXT
The file is generated by the management panel and contains the total paid amount.

EROGATO.TXT
The file is generated by the management panel at the end of each dispensed event. Contains the total dispensed amount.

NONEROGATO.TXT
The file is generated by the management panel in case the automatic cash drawer cannot dispense the full amount. The file, contains the total not dispensed amount.

CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

CONNECTED

The file "connected" lets you know the status of the automatic cash drawer. In this case, the automatic cash drawer is connected and working correctly.

DISCONNECTED

The file "disconnected" lets you know the status of the automatic cash drawer. In this case, it is disconnected or not working correctly.

CMD

The file "cmd" allows you to send a custom command..

CMD_RESPONSE

The file "cmd_response" allows you to read the answer to a custom command sent previously..

DETAILS SUBTOTALE.TXT

The file "subtotale.txt" allows you to start a new transaction. The file should contain the total amount of the transaction in hundredths formatted as 9 digits number.
Example: Start transaction 5 EUR, the contents of the file must have the following excluded quotes text: "000000500".
The file is deleted when the transaction ends.
You can request a withdrawal, writing in a negative file.
Example: "–000000500".

DETAILS ANNULLA.TXT

The file "annulla.txt" allow you to stop a open transaction. The content of the file is irrelevant, it can also be empty. If there is credit paid, the credit is automatically returned to the customer.

DETAILS CHECKLEVELS.TXT

The file "checklevels.txt" allows to obtain the current level of coins and banknotes inside the automatic cash drawer. The content of the file is irrelevant, it can also be empty. The command generates a response file named "levels.xml" whose content is divided into three nodes: coins, banknotes and stacker (cashbox). Each of the three

CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

categories contains as many nodes as available channels, where the attribute "value" is the value of the channel. (2 = 0,02EUR ..., 500 = 5,00EUR). The text of each node, the number of pieces of notes or coins.

DETAILS SALDATO.TXT

The file "saldato.txt" is generated by the management panel and contains the amount partially paid expressed with 9 digits formatted number. The file is updated every time the credit increase. File deleting should be handled by the master software.

DETAILS PAGATO.TXT

The file "pagato.txt" is generated by the management panel when the transaction was completed. Contains the total amount paid expressed with 9 digits formatted number. File deleting should be handled by the master software.

DETTAGLI EROGATO.TXT

The file "erogato.txt" is generated by the management panel at the end of each dispensed event. Contains the dispensed amount as 9 digits formatted number. File deleting should be handled by the master software..

DETAILS NONEROGATO.TXT

The file "nonerogato.txt" is generated by the management panel when the automatic cash drawer fails to dispense the full requested amount. Contains the not dispensed amount as 9 digits formatted number. File deleting should be handled by the master software.

DETAILS CMD

The file "cmd" allows you to send a custom command. The file is deleted at the end of execution of the command and the response is written in "cmd_response" file.

CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

DETAILS CMD_RESPONSE

The file "cmd_response", contains the answer to the custom command sent previously. If the command is unknown the answer will be: "unknown_comand".

CUSTOM COMMANDS

Command: PARTIAL COINS WITHDRAWAL
File text: coins_partial_withdrawal
Description: The command starts dispensing coins in excess to cash fund level.
Response: Contains the amount withdrawn (emptied) formatted as 9 digits number, or "cannot_process_command" if there was already a transaction in progress.

Command: TOTAL COINS WITHDRAWAL
File text: coins_total_withdrawal
Description: The command starts dispensing all coins.
Response: Contains the amount withdrawn (emptied) formatted as 9 digits number, or "cannot_process_command" if there was already a transaction in progress.

Command: PARTIAL NOTES TRANSFER
File text: notes_partial_transfer
Description: The command starts the transfer of notes in excess to cash fund level from recycler to the stacker.
Response: The device reply is "ok" at the end of operation, or "cannot_process_command" if there was already a transaction in progress.

Command: TOTAL NOTES TRANSFER
File text: notes_total_transfer
Description: The command starts the transfer of all notes from recycler to the stacker.
Response: The device reply is "ok" at the end of operation, or "cannot_process_command" if there was already a transaction in progress.

CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

Command: TOTAL NOTES WITHDRAWAL

File text: notes_total_withdrawal

Description: The command resets the stacker counter. To perform the reset the stacker will be removed.

Response: Contains the amount withdrawn (emptied) formatted as 9 digits number, or "cannot_process_command" if there was already a transaction in progress. If the stacker is not removed, the device responds is: "stacker_is_not_removed".

AES 256 ENCRYPTION

To increase safety during the exchange of information, AES 256 was used.
For more information, visit:
(http://it.wikipedia.org/wiki/Advanced_Encryption_Standard)

Please find below the example of encrypt and decrypt methods in c#.

Encryption key = UkFPi7g5ApTFvcwGd6yp3Th7VjViV3WB
Initialization vector = 8fWnMRmK4ic7qHaM

```
private string encrypt(string text)
    {
        byte[] plaintextbytes = System.Text.ASCIIEncoding.ASCII.GetBytes(text);
        AesCryptoServiceProvider aes = new AesCryptoServiceProvider();
        aes.BlockSize = 128;
        aes.KeySize = 256;
        aes.Key = System.Text.ASCIIEncoding.ASCII.GetBytes(key);
        aes.IV = System.Text.ASCIIEncoding.ASCII.GetBytes(iv);
        aes.Padding = PaddingMode.PKCS7;
        aes.Mode = CipherMode.CBC;
        ICryptoTransform crypto = aes.CreateEncryptor(aes.Key, aes.IV);
        byte[] encrypted = crypto.TransformFinalBlock(plaintextbytes, 0, plaintextbytes.Length);
        crypto.Dispose();
        return Convert.ToBase64String(encrypted);
    }
```

CASHMATIC S.r.l.
Via della Lama, 47 – 47922 Rimini (RN) – Italia
Tel. (+39) 0541 17.96.791 – Fax. (+39) 0541 17.94.301
Email. info@cashmatic.it – Web. www.cashmatic.it

```
private string decrypt(string text)
{
    byte[] encryptedbytes = Convert.FromBase64String(text);
    AesCryptoServiceProvider aes = new AesCryptoServiceProvider();
    aes.BlockSize = 128;
    aes.KeySize = 256;
    aes.Key = System.Text.ASCIIEncoding.ASCII.GetBytes(key);
    aes.IV = System.Text.ASCIIEncoding.ASCII.GetBytes(iv);
    aes.Padding = PaddingMode.PKCS7;
    aes.Mode = CipherMode.CBC;
    ICryptoTransform decrypto = aes.CreateDecryptor(aes.Key, aes.IV);
    byte[] decrypted = decrypto.TransformFinalBlock(encryptedbytes, 0, encryptedbytes.Length);
    decrypto.Dispose();
    return System.Text.ASCIIEncoding.ASCII.GetString(decrypted);
}
```