

CPC**COOPERATIVE PATENT CLASSIFICATION****G07F**

COIN-FREED OR LIKE APPARATUS (coin sorting [G07D 3/00](#) ; coin testing [G07D 5/00](#) ; { handling coins or paper currencies apart from payment activated apparatus [G07D](#) ; payment architectures, schemes or protocols [G06Q 20/00](#) })

NOTE

This subclass does not cover constructions or details of apparatus which includes, or is combined with, coin-actuated mechanisms but is not specially adapted or modified for use therewith. Such constructions or details are covered by the relevant subclass for the particular apparatus.

In this subclass, the following term are used with the meaning indicated: o {- "coin-freed" means "payment activated" } o "coins" covers also tokens or the like.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups :
- [G07F 7/12](#) covered by [G07F 7/08E](#)

Guidance heading:**G07F 1/00**

Coin inlet arrangements ; Coins specially adapted to operate coin-freed mechanisms (coins in general [A44C](#))

G07F 1/02

. Coin slots

G07F 1/04

. Coin chutes

G07F 1/041

.. { with means, other than for testing currency, for dealing with inserted foreign matter, e.g. "stuffing", "stringing" or "salting" }

G07F 1/042

... { the foreign matter being a long flexible member attached to a coin }

G07F 1/043

.... { Cutting or trapping of the flexible member or the attached coin }

G07F 1/044

.... { Automatic detection of the flexible member }

G07F 1/045

... { the foreign matter being in the form of liquids }

G07F 1/046

.. { with means for dealing with jamming, e.g. by bent wires }

G07F 1/047

.. { with means for temporarily storing coins }

G07F 1/048

.. { with means for damping coin motion }

G07F 1/06

. Coins specially adapted to operate coin-freed mechanisms

G07F 3/00

Coin testing or sorting means or arrangements for coin-freed apparatus (apparatus for testing coins for use apart from coin-freed apparatus [G07D](#))

WARNING

The groups [G07F 3/00](#) to [G07F 3/027](#) are no longer used for the classification of new documents from October 1, 2007. The backlog of these groups is being continuously reclassified to the group [G07D 5/00](#) and subgroups

- G07F 3/02 . for testing coins
- G07F 3/022 . . { according to shape or size }
- G07F 3/025 . . { according to material }
- G07F 3/027 . . { according to milling or relief }
- G07F 3/04 . for sorting coins

WARNING

This group is no longer used for the classification of new documents from October 1, 2007. The backlog of this group is being continuously reclassified to the group [G07D 3/00](#) and subgroups

G07F 5/00

Coin-actuated mechanisms ; Interlocks

- G07F 5/02 . actuated mechanically by coins, e.g. by a single coin
- G07F 5/04 . . wherein two or more coins of the same denomination are required for each transaction
- G07F 5/06 . . wherein two or more coins of different denominations are required for each transaction
- G07F 5/08 . . wherein the use of two or more coins or an equivalent single coin is optional for each transaction ; wherein the use of two or more coins or an alternative equivalent combination of coins is optional for each transaction
- G07F 5/10 . actuated electrically by the coin, e.g. by a single coin
- G07F 5/12 . . wherein two or more coins of the same denomination are required for each transaction
- G07F 5/14 . . wherein two or more coins of different denominations are required for each transaction
- G07F 5/16 . . wherein the use of two or more coins or an equivalent single coin is optional for each transaction ; wherein the use of two or more coins or an alternative equivalent combination of coins is optional for each transaction
- G07F 5/18 . specially adapted for controlling several coin-free apparatus from one place ([interlocks per se G07F 5/26](#))
- G07F 5/20 . specially adapted for registering coins as credit, e.g. mechanically actuated
- G07F 5/22 . . electrically actuated
- G07F 5/24 . with change-giving ([coin-changing mechanisms per se G07D](#))
- G07F 5/26 . Interlocks, e.g. for locking the doors of compartments other than that to be used

G07F 7/00

Mechanisms actuated by objects other than coins to free or to actuate vending,

hiring, coin or paper currency dispensing or refunding apparatus { (handling coins or paper currencies apart from coin-freed or like apparatus [G07D](#) ; complete banking systems [G07F 19/00](#)) }

- G07F 7/005 . { Details or accessories }
- G07F 7/02 . by keys or other credit registering devices { for producing a coded signal for use together with coded identity cards [G07F 7/10](#) }
- G07F 7/025 . . { by means, e.g. cards, providing billing information at the time of purchase, e.g. identification of seller or purchaser, quantity of goods delivered or to be delivered }
- G07F 7/04 . by paper currency
- G07F 7/06 . by returnable containers, { i.e. reverse vending systems in which a user is rewarded for returning a container that serves as a token of value } , e.g. bottles
- G07F 7/0609 . . { by fluid containers, e.g. bottles, cups, gas containers }
- G07F 7/0618 . . { by carts }
- G07F 7/0627 . . . { in which the trolleys or carts are kept fixed or linked onto a rail or barrier }
- G07F 7/0636 . . . { in which the trolleys or carts are kept in a restricted zone such as a coral-like enclosure, or are passing a gate before use is possible }
- G07F 7/0645 { in which the trolleys or carts are kept in a box or container designed to transport or store a row of trolleys or carts as a whole }
- G07F 7/0654 . . . { in which the lock functions according to a "pinching of the token" principle, i.e. the token is held between two members }
- G07F 7/0663 . . . { Constructional details of the housing of the coin or token activated lock, or of mounting of the coin-lock on the trolley or cart }
- G07F 7/0672 . . . { Special lock-activating tokens, serving as replacement of a payment or of a coin }
- G07F 7/0681 { in which a card, pay-card or card-like object is used as the special token required to get permission or activate the lock to use the trolley or cart }
- G07F 7/069 . . { by box-like containers, e.g. videocassettes, books }
- G07F 7/08 . by coded identity card or credit card { or other personal identification means (without personal verification means [G07F 7/02](#)) }
- G07F 7/0806 . . { Details of the card (record carriers per se [G06K](#)) }
- G07F 7/0813 . . . { Specific details related to card security }
- G07F 7/082 { Features insuring the integrity of the data on or in the card }
- G07F 7/0826 { Embedded security module }
- G07F 7/0833 . . . { Card having specific functional components }
- G07F 7/084 { Additional components relating to data transfer and storing, e.g. error detection, self-diagnosis }
- G07F 7/0846 . . . { On-card display means }
- G07F 7/0853 . . . { On-card keyboard means }
- G07F 7/086 . . { by passive credit-cards adapted therefor, e.g. constructive particularities to avoid counterfeiting, e.g. by inclusion of a physical or chemical security-layer (for security documents [G07D 7/00](#) ; for the reading of record-carriers in general [G06K 7/00](#) ; for the design of coded credit-cards [G06K 19/10](#)) }
- G07F 7/0866 . . { by active credit-cards adapted therefor ([G07F 7/1008](#) takes precedence) }

NOTE

Attention is drawn to the note after group [G07F 7/1008](#) .

The cards referred to in this group are transferable like regular cash money. They contain a monetary value represented by a coded number in a protected memory, to be loaded by cash payment or from account

- G07F 7/0873 .. { Details of the card reader }
- G07F 7/088 ... { the card reader being part of the point of sale (POS) terminal or electronic cash register (ECR) itself }
- G07F 7/0886 { the card reader being portable for interacting with a POS or ECR in realizing a payment transaction }
- G07F 7/0893 ... { the card reader reading the card in a contactless manner }
- G07F 7/10 .. together with a coded signal { e.g. in the form of personal identification information, like personal identification number (PIN) or biometric data }
- G07F 7/1008 ... { Active credit-cards provided with means to personalise their use, e.g. with PIN-introduction/comparison system }

NOTE

In this group, the term "active credit card" embraces any portable, self-contained device, provided with circuits enabling it to exchange data with a partner in order to conduct a transaction.

- G07F 7/1016 ... { Devices or methods for securing the PIN and other transaction-data, e.g. by encryption ([arrangements for secret communication, see H04L 9/00](#)) }
- G07F 7/1025 ... { Identification of user by a PIN code }
- G07F 7/1033 { Details of the PIN pad }
- G07F 7/1041 { PIN input keyboard gets new key allocation at each use }
- G07F 7/105 { Only a part of the PIN is required to be input }
- G07F 7/1058 { PIN is checked locally }
- G07F 7/1066 { PIN data being compared to data on card }
- G07F 7/1075 { PIN is checked remotely }
- G07F 7/1083 { Counting of PIN attempts }
- G07F 7/1091 { Use of an encrypted form of the PIN }
- G07F 7/12 .. Card verification
- G07F 7/122 ... { Online card verification }
- G07F 7/125 ... { Offline card verification }
- G07F 7/127 ... { in which both online and offline card verification can take place }

G07F 9/00 **Details other than those peculiar to special kinds or types of apparatus (coin inlet arrangements [G07F 1/00](#) ; coin testing arrangements [G07F 3/00](#) ; coin-actuated mechanisms, interlocks [G07F 5/00](#))**

- G07F 9/003 . { displaying the inserted coins }
- G07F 9/006 . { Details of the software used for the vending machine }

- G07F 9/02 . Devices for alarm or indication, e.g. when empty ; Advertising arrangements in coin-freed apparatus (alarms or warning devices indicating the interruption of flow to be metered [G07F 15/10](#))
- G07F 9/023 . . { for display, data presentation or advertising arrangements in payment activated and coin-freed apparatus }
- G07F 9/026 . . { for alarm, monitoring and auditing in vending machines or means for indication, e.g. when empty }
- G07F 9/04 . Means for returning surplus or unused coins
- G07F 9/06 . Coin boxes
- G07F 9/08 . Counting total of coins inserted
- G07F 9/10 . Casings { or parts thereof } , e.g. with means for heating or cooling
- G07F 9/105 . . { Heating or cooling means, for temperature and humidity control, for the conditioning of articles and their storage (dispensers for food articles requiring a processing by temperature treatment or conditioning before they are ready for dispensing [G07F 17/0064](#)) }

- G07F 11/00 Coin-freed apparatus for dispensing, or the like, discrete articles**
- G07F 11/002 . { where the dispenser is part of a centrally controlled network of dispensers }
- G07F 11/005 . { Special arrangements for insuring that only one single article may be dispensed at a time }
- G07F 11/007 . { wherein the storage and dispensing mechanism are configurable in relation to the physical or geometrical properties of the articles to be stored or dispensed }
- G07F 11/02 . from non-movable magazines
- G07F 11/04 . . in which magazines the articles are stored one vertically above the other
- G07F 11/045 . . . { for sheet shaped or pliable articles }
- G07F 11/06 . . . supported individually on pivotally-mounted flaps or shelves
- G07F 11/08 . . . arranged in two column in staggered relationship
- G07F 11/10 . . . two or more magazines having a common delivery chute
- G07F 11/12 . . . with means for automatically changing to reserve stacks
- G07F 11/14 . . . with means for raising the stack of articles to permit delivery of the topmost
- G07F 11/16 . . . Delivery means
- G07F 11/165 { Delivery by means of an xyz-picker or multi-dimensional article picking arrangement }
- G07F 11/18 Recessed drawers
- G07F 11/20 Pushers actuated directly by hand
- G07F 11/22 Pushers actuated indirectly by hand, e.g. through cranks or levers
- G07F 11/24 Rotary or oscillatory members
- G07F 11/26 Endless bands
- G07F 11/28 . . in which the magazines are inclined

- G07F 11/30 . . . two or more magazines having independent delivery
- G07F 11/32 . . . two or magazines having a common delivery chute
- G07F 11/34 . . in which the magazines are of zig-zag form
- G07F 11/36 . . in which the magazines are of helical or spiral form
- G07F 11/38 . . in which the magazines are horizontal
- G07F 11/40 . . . the articles being delivered by hand-operated means
- G07F 11/42 . . . the articles being delivered by motor-driven means
- G07F 11/44 . . in which magazines the articles are stored in bulk

- G07F 11/46 . from movable storage containers or supports
- G07F 11/48 . . the storage containers or supports, e.g. magazine, being pivotally mounted ([articles supported on pivotally mounted flaps or shelves in magazines G07F 11/06](#))
- G07F 11/50 . . the storage containers or supports being rotatably mounted
- G07F 11/52 . . . about horizontal axes
- G07F 11/54 . . . about vertical axes
- G07F 11/56 the storage containers or supports both rotating and moving axially
- G07F 11/58 . . the articles being supported on or by endless belts or like conveyers
- G07F 11/60 . . the storage containers or supports being rectilinearly movable ([endless belts or like conveyers G07F 11/58](#))

- G07F 11/62 . in which the articles are stored in compartments in fixed receptacles
- G07F 11/64 . in which the articles are individually suspended from stationary supports
- G07F 11/66 . in which the articles are dispensed by cutting from a mass
- G07F 11/68 . in which the articles are torn or severed from strips or sheets
- G07F 11/70 . in which the articles are formed in the apparatus from components, blanks, or material constituents
- G07F 11/72 . Auxiliary equipment, e.g. for lighting cigars, opening bottles

- G07F 13/00** **Coin-freed apparatus for controlling dispensing of fluids, semiliquids or granular material from reservoirs**

- G07F 13/02 . by volume
- G07F 13/025 . . { [wherein the volume is determined during delivery](#) }
- G07F 13/04 . by weight
- G07F 13/06 . with selective dispensing of different fluids or materials or mixtures thereof
- G07F 13/065 . . { [for drink preparation](#) }
- G07F 13/08 . in the form of a spray
- G07F 13/10 . with associated dispensing of containers, e.g. cups or other articles ([dispensing discrete articles per se G07F 11/00](#))

G07F 15/00 **Coin-free apparatus with meter-controlled dispensing of liquid, gas or electricity (tariff-metering apparatus in general [G01D 4/00](#))**

- G07F 15/001 . { for gas }
- G07F 15/003 . { for electricity }
- G07F 15/005 .. { dispensed for the electrical charging of vehicles (electrical charging as such, [B60L11](#)) }
- G07F 15/006 .. { dispensed for the electrical charging of other devices than vehicles }
- G07F 15/008 .. { Rewarding for providing delivery of electricity to the network }
- G07F 15/02 . in which the quantity mechanism is set forward by hand after insertion of a coin
- G07F 15/04 . in which the quantity mechanism is set forward automatically by the insertion of a coin
- G07F 15/06 . with means for prepaying basic charges, e.g. rent for meters
- G07F 15/08 . with means for varying the tariff or changing the price
- G07F 15/10 . with alarm or warning devices, e.g. indicating the interrupting of the supply
- G07F 15/12 . in which metering is on a time basis

G07F 17/00 **Coin-freed apparatus for hiring articles ; Coin-freed facilities or services**

- G07F 17/0007 . { for clockworks, e.g. alarm clocks, saving clocks }
- G07F 17/0014 . { for vending, access and use of specific services not covered anywhere else in 17/00 (meter-controlled dispensing of liquid, gas or electricity [G07F 15/00](#)) }
- G07F 17/0021 .. { Access to services on a time-basis }
- G07F 17/0028 ... { Use of a wired telephone or public communication device (charging and metering the use of the telecommunication network [H04M 17/02](#)) }
- G07F 17/0035 .. { Participation in a loyalty or discount scheme (data processing for shopping and discounts [G06Q 30/00](#)) }
- G07F 17/0042 . { for hiring of objects }
- G07F 17/005 .. { for the hiring of content carriers, e.g. of DVDs or CDs (reverse vending for box-like objects such as videocassettes [G07F 7/069](#)) }
- G07F 17/0057 .. { for the hiring or rent of vehicles e.g. cars, bicycles or wheelchairs (car rental [G07B 15/00](#)) }
- G07F 17/0064 . { for processing of food articles (cooking vessels [A47J 37/00](#)) }
- G07F 17/0071 .. { Food articles which need to be processed for dispensing in a cold condition, e.g. ice and ice cream }
- G07F 17/0078 .. { Food articles which need to be processed for dispensing in a hot or cooked condition, e.g. popcorn, nuts }
- G07F 17/0085 ... { Food articles which for processing need cooking in a liquid, e.g. oil, water }
- G07F 17/0092 . { for assembling and dispensing of pharmaceutical articles (medical dispensers for

- private use, [A61J 7/00](#) ; data processing for medical purposes [G06F 19/00](#)) }
- G07F 17/02 . for optical devices, e.g. telescopes
- G07F 17/04 . for anthropometrical measurements, such as weight, height, strength
- G07F 17/045 .. { for weighing persons (weighing apparatus in general [G07F 17/263](#)) }
- G07F 17/06 . for inflating-pumps
- G07F 17/08 . for seats or footstools
- G07F 17/10 . for means for safe-keeping of property, left temporarily, e.g. by fastening the property
- G07F 17/105 .. { for money boxes (for saving clocks [G07F 17/0007](#)) }
- G07F 17/12 .. comprising lockable containers, e.g. for accepting clothes to be cleaned
- G07F 17/14 . for fastenings for doors (of containers for safe keeping [G07F 17/12](#)) ; for turnstiles
- G07F 17/145 .. { for revolving doors or turnstiles }
- G07F 17/16 . for devices exhibiting advertisements, announcements, pictures or the like
- G07F 17/163 .. { for film projection apparatus }
- G07F 17/166 .. { for calendars }
- G07F 17/18 . for washing or drying persons
- G07F 17/20 . for washing or drying articles, e.g. clothes, motor cars
- G07F 17/22 . for cleaning and polishing boots or shoes
- G07F 17/24 . for parking meters (devices for checking parking time [G07C 1/30](#))
- G07F 17/242 .. { provided with token dispensing devices }
- G07F 17/244 .. { provided with means for retaining a vehicle }
- G07F 17/246 .. { provided with vehicle proximity-detectors (detecting hidden masses, e.g. metal detectors, [G01V](#) , e.g. [G01V 3/00](#) ; proximity switches per se [H03K 17/00](#) ; traffic control systems [G08G 1/00](#)) }
- G07F 17/248 .. { Housing construction (casings for coin-freed apparatus [G07F 9/10](#)) }
- G07F 17/26 . for printing, stamping, franking, typing or tele-printing apparatus (ticket printing or the like apparatus [G07F 17/42](#))
- G07F 17/263 .. { for weighing devices (for personal weighing apparatus [G07F 17/045](#)) }
- G07F 17/266 .. { for the use of a photocopier or printing device (photocopiers [H04N 1/00](#)) }
- G07F 17/28 . for radio apparatus (television subscription systems [H04N 7/16](#))
- G07F 17/30 . for musical instruments (recording or playing apparatus [G11B](#))
- G07F 17/305 .. { for record players }
- G07F 17/32 . for games, toys, sports or amusements, { e.g. casino games, online gambling or betting (game play without financial reward [A63F](#)) }

G07F 17/3202	..	{ Hardware aspects of a gaming system, e.g. components, construction, architecture thereof }
G07F 17/3204	...	{ Player-machine interfaces }
G07F 17/3206	....	{ Player sensing means, e.g. presence detection, biometrics }
G07F 17/3209	....	{ Input means, e.g. buttons, touch screen }
G07F 17/3211	....	{ Display means }
G07F 17/3213	.....	{ Details of moving display elements, e.g. spinning reels, tumbling members }
G07F 17/3216	...	{ Construction aspects of a gaming system, e.g. housing, seats, ergonomic aspects }
G07F 17/3218	....	{ wherein at least part of the system is portable }
G07F 17/322	....	{ Casino tables, e.g. tables having integrated screens, chip detection means }
G07F 17/3223	...	{ Architectural aspects of a gaming system, e.g. internal configuration, master/slave, wireless communication }
G07F 17/3225	..	{ Data transfer within a gaming system, e.g. data sent between gaming machines and users }
G07F 17/3227	...	{ Configuring a gaming machine, e.g. downloading personal settings, selecting working parameters }
G07F 17/323	...	{ wherein the player is informed, e.g. advertisements, odds, instructions }
G07F 17/3232	...	{ wherein the operator is informed }
G07F 17/3234	....	{ about the performance of a gaming system, e.g. revenue, diagnosis of the gaming system }
G07F 17/3237	....	{ about the players, e.g. profiling, responsible gaming, strategy/behavior of players, location of players }
G07F 17/3239	.....	{ Tracking of individual players }
G07F 17/3241	..	{ Security aspects of a gaming system, e.g. detecting cheating, device integrity, surveillance (computer security G06F 21/00) }
G07F 17/3244	..	{ Payment aspects of a gaming system, e.g. payment schemes, setting payout ratio, bonus or consolation prizes }
G07F 17/3246	...	{ involving coins and/or banknotes }
G07F 17/3248	...	{ involving non-monetary media of fixed value, e.g. casino chips of fixed value }
G07F 17/3251	...	{ involving media of variable value, e.g. programmable cards, programmable tokens }
G07F 17/3253	...	{ involving articles, e.g. paying in bottles, paying out toys }
G07F 17/3255	...	{ Incentive, loyalty and/or promotion schemes, e.g. comps, gaming associated with a purchase, gaming funded by advertisements }
G07F 17/3258	...	{ Cumulative reward schemes, e.g. jackpots }
G07F 17/326	..	{ Game play aspects of gaming systems }
G07F 17/3262	...	{ Player actions which determine the course of the game, e.g. selecting a prize to be won, outcome to be achieved, game to be played }
G07F 17/3265	....	{ Influencing the position of stopped moving members to achieve a winning arrangement, e.g. nudging, shuffling, holding }
G07F 17/3267	...	{ Game outcomes which determine the course of the subsequent game, e.g. double or quits, free games, higher payouts, different new games }
G07F 17/3269	...	{ Timing aspects of game play, e.g. blocking/halting the operation of a gaming machine }

- G07F 17/3272 . . . { Games involving multiple players }
- G07F 17/3274 { wherein the players cooperate, e.g. team-play }
- G07F 17/3276 { wherein the players compete, e.g. tournament }
- G07F 17/3279 { wherein the competition is one-to-one, e.g. match }
- G07F 17/3281 { wherein game attributes are transferred between players, e.g. points, weapons, avatars }
- G07F 17/3283 { wherein the number of active machines is limited }
- G07F 17/3286 . . { Type of games }

NOTE

Classification in this group is given only in addition to one or more symbols already given in groups [G07F 17/3202](#) to [G07F 17/3283](#)

- G07F 17/3288 . . . { Betting, e.g. on live events, bookmaking }
- G07F 17/329 . . . { Regular and instant lottery, e.g. electronic scratch cards }
- G07F 17/3293 . . . { Card games, e.g. poker, canasta, black jack }
- G07F 17/3295 . . . { Games involving skill, e.g. dexterity, memory, thinking }
- G07F 17/3297 . . . { Fairground games, e.g. Tivoli, coin pusher machines, cranes }
- G07F 17/34 . . depending on the stopping of moving members { in a mechanical slot machine } , e.g. "fruit" machines

NOTE

Classification in this group is given only in addition to one or more symbols already given in groups [G07F 17/3202](#) to [G07F 17/3283](#)

- G07F 17/36 . . Age, character or fortune telling apparatus
- G07F 17/38 . . Ball games ; Shooting apparatus { (ball games, e.g. football, golf, bowls, without coin collection [A63B](#)) }
- G07F 17/40 . for devices for accepting orders, advertisements, or the like
- G07F 17/42 . for ticket printing or like apparatus { e.g. apparatus for dispensing of printed paper tickets or payment cards }

G07F 19/00 **Complete banking systems ; Coded card-freed arrangements adapted for dispensing or receiving monies or the like and posting such transactions to existing accounts, e.g. automatic teller machines (data processing equipment for bank accounting [G06Q 40/02](#) ; { mechanisms in general actuated by objects other than coins [G07F 7/00](#) ; handling coins or paper currencies apart from payment activated apparatus [G07D](#) })**

WARNING

Groups [G07F 19/20](#) - [G07F 19/211](#) do not correspond to former or future IPC groups. Concordance CPC : IPC for these groups is as follows: - [G07F 19/20](#) - [G07F 19/211](#) : [G07F 19/00](#)

- G07F 19/20 . { Automatic teller machines [ATMs] }

G07F 19/201	..	{ Accessories of ATMs }
G07F 19/202	..	{ Depositing operations within ATMs (depositing in general G07D 11/00) }
G07F 19/203	..	{ Dispensing operations within ATMs (dispensing in general G07D 11/00) }
G07F 19/204	..	{ Loading of a stored value token using an ATM }
G07F 19/205	..	{ Housing aspects of ATMs }
G07F 19/2055	...	{ Anti-skimming aspects at ATMs }
G07F 19/206	..	{ Software aspects at ATMs }
G07F 19/207	..	{ Surveillance aspects at ATMs }
G07F 19/208	..	{ Use of an ATM as a switch or hub }
G07F 19/209	..	{ Monitoring, auditing or diagnose of functioning of ATMs }
G07F 19/21	..	{ Retaining of the payment card by ATMs }
G07F 19/211	..	{ Software architecture within ATMs or in relation to the ATM network }