Cooperative Patent Classification

H ELECTRICITY
(Note omitted)

H04 ELECTRIC COMMUNICATION TECHNIQUE
(Note omitted)

H04Q SELECTING (switches, relays, selectors H01H; electronic switches H03K 17/00)

Notes

1. This subclass covers:
   • methods, circuits, or apparatus for establishing selectively a connection between a desired number of stations (normally two), or between a main station and a desired number of substations (normally one) for the purpose of transferring information via this connection after it has been established;
   • selective calling arrangements over connections already established.
   In either case, the connection may be made by means of electric conductors or electromagnetic waves.

2. In this subclass, the following terms or expressions are used with the meanings indicated:
   • “subscriber” is a general term for terminal equipment, e.g. telephone for public use;
   • “substation” means a subscriber or monitoring equipment which may connect a single subscriber to a line without choice as to subscriber;
   • “satellite” is a kind of exchange the operation of which depends upon control signals received from a supervisory exchange;
   • “switching centres” includes exchanges and satellites.

Warning

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00 Details of selecting apparatus or arrangements [for establishing connections among stations for the purpose of transferring information via these connections]

1/02 . . . . . . Constructional details

1/021 . . . (using pivoting mechanisms for accessing the interior of the apparatus)

1/023 . . . (using sliding mechanisms for accessing the interior of the apparatus)

1/025 . . . . . . (Cabinets)

1/026 . . . . . . (characterized by door details)

1/028 . . . . . . (Subscriber network interface devices (line interfacing in the subscriber set H04M 1/0293))

1/03 . . . . . . [Power distribution arrangements]

1/032 . . . . . . [power failure protection]

1/035 . . . . . . (Cooling of active equipments, e.g. air ducts)

1/04 . . . . . . Frames or mounting racks for selector switches; Accessories therefor, e.g. frame cover

1/06 . . . . . . Cable ducts or mountings specially adapted for exchange installations (in general H02C)

1/062 . . . . . . [vertical management arrangements]

1/064 . . . . . . [horizontal management arrangements]

1/066 . . . . . . [arranged on the front side]

1/068 . . . . . . [arranged on the rear side]

1/08 . . . . . . Frames or mounting racks for relays; Accessories therefor

1/09 . . . . . . [Frames or mounting racks not otherwise provided for]  

1/10 . . . . . . Exchange station construction

1/11 . . . . . . [Protection against environment]

1/112 . . . . . . [mechanical protection, e.g. resistance to earthquakes]

1/114 . . . . . . [flooding protection, e.g. using water proof provision]

1/116 . . . . . . [lightning or EMI protection, e.g. shielding or grounding (suppression of noise or interference in transmission systems H04B 15/00)]

1/118 . . . . . . [heat or sun protection]

1/12 . . . . . . Arrangements of multiple bars with or without pivotable frames

1/13 . . . . . . (Patch panels for monitoring, interconnecting or testing circuits, e.g. patch bay, patch field or jack field; Patching modules)

1/131 . . . . . . [being pivotable]

1/133 . . . . . . [being slidable]

1/135 . . . . . . [characterized by patch cord details]

1/136 . . . . . . [having patch field management or physical layer management arrangements]

1/138 . . . . . . [using RFID]

1/14 . . . . . . Distribution frames

1/141 . . . . . . [Details of connexions between cable and distribution frame]

1/142 . . . . . . [Terminal blocks for distribution frames]

1/143 . . . . . . [with contacts on circular surface]

1/144 . . . . . . [Plugs used in distribution frames]

1/145 . . . . . . [with switches arranged in a matrix configuration]

1/146 . . . . . . [with line protection means]

1/147 . . . . . . [using robots for distributing]

1/148 . . . . . . [Identification strips for distribution frames]

1/149 . . . . . . [Wireguides in connector blocks]

1/15 . . . . . . [Backplane arrangements]

1/155 . . . . . . [characterised by connection features]
Electrical details
H04Q

1/16 . . . Wiring arrangements for selector switches or relays in frames
1/18 . . . Testing circuits or apparatus; Circuits or apparatus for detecting, indicating, or signalling faults or troubles
1/22 . . . Automatic arrangements
1/24 . . . . for connection devices
1/245 . . . . . [in time-division multiplex systems]
1/26 . . . . . for signalling trouble in unoccupied sub-exchanges
1/28 . . . . Current-supply circuits or arrangements for selection equipment at exchanges
1/30 . . . . Signalling arrangements; Manipulation of signalling currents (multiplex systems providing for calling or supervisory signals H04J 1/14; H04Q 3/12; telephone substation equipment H04M 1/00)
1/32 . . . . using trains of dc pulses (H04Q 1/39 takes precedence)
1/34 . . . . Impulse regenerators with mechanical or other non-electrical marking arrangements
1/36 . . . . Pulse-correcting arrangements, e.g. for reducing effects due to interference
1/38 . . . . using combinations of direct currents of different amplitudes or polarities over line conductors or combination of line conductors
1/39 . . . . using coded pulse groups
1/40 . . . . whereby duration of pulse or interval between two pulses is variable
1/42 . . . . involving the position of a pulse in a cycle
1/44 . . . . using alternate current (H04Q 1/50 takes precedence)
1/442 . . . . with out-of-voice band signalling frequencies
1/4423 . . . . {using one signalling frequency}
1/4426 . . . . {using two or more signalling frequencies, transmitted in succession or simultaneously}
1/444 . . . . with voice-band signalling frequencies
1/446 . . . . using one signalling frequency (H04Q 1/46 takes precedence)
1/4465 . . . . {the same frequency being used for all signalling information, e.g. A.C. nr.9 system}
1/448 . . . . . with conversion of a single frequency signal into a digital signal
1/4485 . . . . . {which is transmitted in digital form}
1/45 . . . . . using multi-frequency signalling (H04Q 1/46 takes precedence)
1/453 . . . . . in which m-out-of-n signalling frequencies are transmitted
1/4535 . . . . . {with an additional signal transmitted for voice protection}
1/457 . . . . . with conversion of multifrequency signals into digital signals
1/4575 . . . . . {which are transmitted in digital form}
1/46 . . . . . comprising means for distinguishing between a signalling current of predetermined frequency and a complex current containing that frequency, e.g. speech current
1/48 . . . . Induced-current signalling arrangements
1/50 . . . . Conversion between different kinds of signals
1/54 . . . . Amplifier switched-on automatically in dependence on automatically-selected lines
1/56 . . . . Balancing circuitry switched-on automatically in dependence on automatically-selected lines

3/00 Selecting arrangements (H04Q 5/00 - H04Q 11/00 take precedence)
3/0004 . . . [using crossbar selectors in the switching stages]
3/0008 . . . [using relay selectors in the switching stages]
3/0012 . . . [in which the relays are arranged in a matrix configuration]
3/0016 . . . [Arrangements providing connection between exchanges]
3/002 . . . [Details]
3/0025 . . . [Provisions for signalling (circuitry in H04Q 1/30)]
3/0029 . . . [Provisions for intelligent networking]
3/0033 . . . [customer-controlled]
3/0037 . . . [involving call modelling techniques, e.g. modifications to the basic call state model [BCSM]]
3/0041 . . . [involving techniques for avoiding interaction of call service features]
3/0045 . . . [involving hybrid, i.e. a mixture of public and private, or multi-vendor systems]
3/005 . . . [Personal communications services, e.g. provisions for portability of subscriber numbers (subscriber services provided at exchanges H04M 3/42)]
3/0054 . . . [Service creation techniques]
3/0058 . . . . [using service-independent building blocks (SIBBs) or "primitives"]
3/0062 . . . [Provisions for network management]
3/0066 . . . [Bandwidth allocation or management]
3/007 . . . . [customer-controlled]
3/0075 . . . [Fault management techniques]
3/0079 . . . . [involving restoration of networks, e.g. disaster recovery, self-healing networks]
3/0083 . . . . [Network planning or design; Modelling of planned or existing networks]
3/0087 . . . [Network testing or monitoring arrangements]
3/0091 . . . [Congestion or overload control]
3/0095 . . . . [Specification, development or application of network management software, e.g. software re-use]
3/02 . . . Circuit arrangements for selectors responsive to a permutation code
3/04 . . . Circuit arrangements for receivers of routing digits
3/06 . . . for group or trunk group selectors
3/08 . . . for local or long-distance selectors
3/10 . . . for PBX selectors, i.e. private branch exchange selectors
3/12 . . . for line selectors providing transfer of routing digits
3/14 . . . for two-way operation selectors
3/16 . . . for marking-switches
3/18 . . . Circuit arrangements for first stage of hunting switching
3/20 . . . for preselectors
3/22 . . . comprising common calling and disconnecting circuit
3/24 . . . for line finders
3/26 . . . comprising common calling and disconnecting circuit
Circuit arrangements for second or subsequent stages of hunting switching
for the second preselection stage
for the second line-finder stage
for stages after the group selector stage
for stages after the line selector, e.g. for extension selector
Circuit arrangements for indirect selecting controlled by common circuits, e.g. register controller, marker
using revertive control
using signals other than revertive impulses
using translators
using markers
for end-to-end marking
for routing connecting paths
using static devices in switching stages, e.g. electronic switching arrangements
{using semiconductors in the switching stages}
{Configuration, initialization}
{Initialization, software or data downloading (G06F 9/445 takes precedence)}
{Features introduction}
{Configuration data, translation, passwords, databases}
{Multi-processor systems}
{Redundancy, stand-by}
{Intelligent peripherals, adjunct processors}
{Software application}
{Software development, e.g. procedural, object oriented, software generation, software testing}
{Supervision, e.g. fault localisation, traffic measurements, avoiding errors, failure recovery, monitoring, statistical analysis}
using wired logic circuitry
{Wired circuits or arrangements therefor}
being comprised by electro-magnetic devices
in which the control signals are multiplexed
Arrangements providing connection between main exchange and sub-exchange or satellite
for connecting to satellites or concentrators which connect one or more exchange lines with a group of local lines
{Circuit arrangements therefor}
{Arrangements in the satellite or concentrator}
{Details}
for connecting to private branch exchanges
{Circuit arrangements therefor}
{Arrangements in the private branch exchange}
{Details}
Distributing or queueing
Traffic distributors
{Circuit arrangements therefor}
Grouping or interlacing selector groups or stages
{Circuit arrangements therefor}
Identification of class of calling subscriber
Finding out and indicating number of calling subscriber
Identification of subscriber calling from a party-line
Translation from the called subscriber's number to the outgoing or incoming control information
Temporary storage of information of calling or called subscriber (intermediate storage means for telegraphic communication H04L 13/08)
Selecting arrangements wherein two or more subscriber stations are connected by the same line to the exchange
with direct connection for all subscribers, i.e. party-line systems (H04Q 5/24 takes precedence)
Signalling by currents in one or other or both line wires or additional wires
Signalling by amplitude or polarity of dc
Signalling by continuous ac
using single frequencies for different subscribers
using combinations of frequencies
Signalling by pulses
by predetermined number of pulses
with indirect connection, i.e. through subordinate switching centre
the subordinate centre permitting interconnection of subscribers connected thereto
the subordinate centre not permitting interconnection of subscribers connected thereto
for two-party-line systems
{Circuit arrangements in which for one subscriber low frequency speech and/or signalling signals proceed on the line, while for the other subscriber the low frequency speech and/or signalling signals are modulated upon a high frequency carrier signal)
Arrangements in telecontrol or telemetry systems for selectively calling a substation from a main station, in which substation desired apparatus is selected for applying a control signal thereto or for obtaining measured values therefrom
Automatically-operated arrangements
Arrangements for synchronous operation
Calling by using amplitude or polarity of dc
Calling by using continuous ac
using single different frequencies
using combinations of frequencies
Calling by using pulses
by predetermined number of pulses
Selecting arrangements for multiplex systems (multiplex systems H04J)
{using optical switching}
2011/003 . . . [Details]
2011/005 . . . [Switch and router aspects]
2011/0007 . . . [Construction]
2011/0009 . . . [using wavelength filters]
2011/0011 . . . [using wavelength conversion]
2011/0013 . . . [using gating amplifiers]
2011/0015 . . . [using splitting combining]
2011/0016 . . . [using wavelength multiplexing or demultiplexing]
2011/0018 . . . [using tunable transmitters or receivers]
2011/0002 . . . [using optical delay lines or optical buffers or optical recirculation]
2011/0022 . . . [using fibre gratings]
2011/0024 . . . [using space switching]
2011/0026 . . . [using free space propagation (e.g. lenses, mirrors)]
2011/0028 . . . [using holograms]
2011/003 . . . [using switches based on microelectro-mechanical systems [MEMS]]
2011/0032 . . . [using static wavelength routers (e.g. arrayed waveguide grating router [AWGR])]
2011/0033 . . . [using time division switching]
2011/0035 . . . [using miscellaneous components, e.g. circulator, polarisation, acousto/thermo optical]
2011/0037 . . . [Operation]
2011/0039 . . . [Electrical control]
2011/0041 . . . [Optical control]
2011/0043 . . . [Fault tolerance]
2011/0045 . . . [Synchronisation]
2011/0047 . . . [Broadcast; Multicast]
2011/0049 . . . [Crosstalk reduction; Noise; Power budget]
2011/0005 . . . [Arbitration and scheduling]
2011/0052 . . . [Interconnection of switches]
2011/0054 . . . [Distribute-route]
2011/0056 . . . [Clos]
2011/0058 . . . [Crossbar; Matrix]
2011/0006 . . . [Full mesh]
11/00062 . . . [Network aspects]
2011/0064 . . . [Arbitration, scheduling or medium access control aspects]
11/00066 . . . [Provisions for optical burst or packet networks]
2011/0069 . . . [using dedicated optical channels]
11/0071 . . . [Provisions for the electrical-optical layer interface]
2011/0073 . . . [Provisions for forwarding or routing, e.g. lookup tables]
2011/0075 . . . [Wavelength grouping or hierarchical aspects]
2011/0077 . . . [Labeling aspects, e.g. multiprotocol label switching [MPLS], G-MPLS, MPAS]
2011/0079 . . . [Operation or maintenance aspects]
2011/0081 . . . [Fault tolerance; Redundancy; Recovery; Reconfigurability]
2011/0083 . . . [Testing; Monitoring]
2011/0084 . . . [Quality of service aspects]
2011/0086 . . . [Network resource allocation, dimensioning or optimisation]
2011/0088 . . . [Signalling aspects]
2213/00  Indexing scheme relating to selecting arrangements in general and for multiplex systems

2213/001  Motor selectors
2213/002  Graphical representation
2213/003  Constructional details
2213/011  Periodic optical structures, e.g. gratings, holograms
2213/012  Tunable optical systems
2213/013  Optical shutters, e.g. LCD arrays
2213/014  Optical storage, not delay lines
2213/015  3D-optical arrangement
2213/016  Optical subcarrier modulation
2213/017  Optical polarisation
2213/018  Pulse distributor
2213/019  Priority levels
2213/020  Multitasking
2213/021  Software aspects
2213/022  Binary switch (Beta element)
2213/023  Software routines, e.g. finite state machines
2213/024  IRQ
2213/025  Preselector; Second line switch
2213/026  Finder switch (e.g. line finder, call finder)
2213/027  Strowger-switch as finder switch
2213/028  Cascaded finder or preselector switches
2213/029  Group selector
2213/030  Switch with two or more wipersets
2213/031  Finder switch serving as final selector
2213/032  Final selector
2213/033  Panel switches
2213/034  Call distribution; Call detection; Call signalling by common apparatus
2213/035  Sequence circuits
2213/036  Distributing frame; Cross connect
2213/037  Power supply
2213/038  Phantom circuits
2213/039  Subscriber related equipment; Analog terminal
2213/040  Indication of kind/number of subscriber
2213/041  Scanning of (subscriber) lines, registers, translators
2213/042  Personal computer
2213/043  Range extender
2213/044  User access; PIN code
2213/045  Digital subscriber terminal
2213/046  Numbering
2213/047  Mobile subscriber
2213/048  Loop multiplexer (not ISDN BRI/PRI; not 381), e.g. loop splitter
2213/049  Register
2213/050  Discriminating selectors
2213/051  Common translator
2213/052  Memories
2213/053  Central control; Computer control
2213/054  Microcomputer; Microprocessor
2213/055  Control equipment for part of the connection
2213/063  Initialising; Downloading of parameters or program routines
2213/064  Sequencer switches
2213/065  Call indicator, e.g. number indicator
2213/066  Marker
2213/067  Pulse indicator
2213/068  Charging
2213/069  Step by step switches
2213/070  Constructional details of switching devices
2213/071  Optical transmission, optical switches
2213/072  Hybrid fiber coax, HFC
2213/073  Optical subcarrier modulation
2213/074  Transmitting
2213/075  Optical switches
2213/076  Optical multiplexing
2213/077  Optical subcarrier modulation
2213/078  Asymmetrical two-way transmission, e.g. ADSL, HDSL
2213/079  Coordinate switches, crossbar, 4/2 with relays, coupling field
2213/080  Binary switch, β-element
2213/081  Software aspects
2213/082  Software generation
2213/083  Multitasking
2213/084  Priority levels
2213/085  Expert system
2213/086  Routines, finite state machines
2213/087  Object-oriented software
2213/088  Interrupt request
2213/089  Call setup
2213/090  Sequence circuits for call signaling, ACD systems
2213/091  Distributing frame, MDF, cross-connect switch
Multiple-zone-metering

Modem, modulation

Four wire connection, transmission

Fax, still picture

Control signals

Common channel signaling, CCS7

Pulse distributor

Metering, billing

Coin boxes, payphone, prepaid

Collect call (information service H04Q 2213/13376)

Least cost routing, LCR

Fraud detection/prevention

Searchin path through number of switching stages or nodes, e.g. revertive blocking

Rerouting upon failure

Rerouting upon blocking/overload, rearrangement

Maximum profit routing

Change of provider, e.g. network or service

Call waiting

Callback

Automatic digit redialling, automatic call retry

Service observation, testing

Fault indication and localisation

Fault alarm

Traffic (registration, measurement,...)

Fault prevention

Redundant apparatus

Error Correction

Supervisory signals

Busy signals

Data transmission, file transfer

Graphical user interface [GUI], WWW interface, visual indication

Common channel signaling, CCS7

Control signals

Fax, still picture

Ringing

Amplifier, attenuation circuit, echo suppressor

Repeater

Four wire connection, transmission

Connection circuit/link/trunk/junction, bridge, router, gateway

Modern, modulation

Multiple-zone-metering

Change-over of service during connection

Network termination [NT]

Exchange termination [ET]

Protocols

Primary rate access, PRI

User-to-user signaling, UUS

Inverse multiplexing, channel bonding, e.g. TSSI aspects

ISDN

Counting, timing circuits

Clock signals

Code checking, CRC

Code signals, frame structure

Crackback in routing, trombone connection, loopback circuit

PBX

PBX circuits in public exchange, centrex

Off-net subscriber, dial in to/out from network, teleworking

Party line

Conference call

Broadcast, diffusion, multicast, point-to-multipoint (1 : N)

Instant speaker's algorithm [ISA]

Multimedia

Priority service

Restricted service, class of service

Call screening

Consultation call, broker's call, call hold, toggling

Release and resetting of connection

Forced release

Premature release

Call rejection, call barring

Call transfer, e.g. in PBX

Call transfer/forward at night

Call forward, follow-me, call diversion

Call tracing

Direct in-dialling in PBX, DDI

Wake-up call service

Closed user groups, CUG

Asynchronous transfer mode, ATM

Frequency division multiplexing, FDM

Time division multiplexing, TDM

TASI, irregular time division, burst switching

CDMA, code division multiplexing, i.e. combinations of H04Q 2213/13291 and/or H04Q 2213/13292 with space division

Wavelength multiplexing, WDM

Packet switching, X.25, frame relay

Coupling different rates in TDM systems, data rate adaptation

Local loop systems, access network

Bus

Multiple-time-metering

Magnetic elements

Transistors, semiconductors in general

Ferro-electric elements

Delay elements, shift registers

Logic circuits

Integrated circuits

Random systems

Abbreviated dialling
client/server architectures

primitives - inc. service-independent building blocks [SIBBs]

object-oriented systems

client/server architectures

H04Q 2213/13374)

store & forward, messaging systems (email)

H04Q 2213/13375)

traffic registration; Adaptation of traffic

fault indication, e.g. localisation

blocking or cutoff of faulty apparatus, e.g. timed

service observation; Fault circuit; Testing

Automatic redialling

Automatic call retry

Waiting

Rerouting, e.g. on failure

stages

hunting for free outlet, circuit, channel

busy test, e.g. marking busy

least cost routing

Congestion - inc. overflow

connection management, e.g. Basic Call State Model

congestion - inc. overflow

numbering plans, e.g. number re-allocation

network planning, configuration management, e.g. for growth

modeling or simulation, particularly of networks

monitoring of signaling messages, intelligent network

intelligent Peripheral

Subscriber, e.g. profile, database, database access

call modeling, e.g. Basic Call State Model

congestion - inc. overflow

blocking

call gapping, e.g. to prevent congestion

load balancing

restoration, e.g. disaster recovery, self-healing networks

mediation

negotiation, management policy, goals

collect call, e.g. 800 service

least cost routing

busy test, e.g. marking busy

hunting for free outlet, circuit, channel

searching a free path through cascaded switching stages

rerouting, e.g. on failure

rearrangement

waiting

automatic call retry

automatic redialling

service observation; Fault circuit; Testing

blocking or cutoff of faulty apparatus, e.g. timed out

fault indication, e.g. localisation

fault alarm

traffic registration; Adaptation of traffic possibilities

management information base [MIB]

reservation

800 - freephone

upt - personal as opposed to terminal mobility, inc. number portability

quality of service - inc. grade of service

authentication, authorisation - fraud prevention

agents or brokers - user, terminal etc., also OSI agent/managers

SLEE - service logic execution

fault management

taxi management

bandwidth management, e.g. capacity management

cost management (least cost H04Q 2213/13318)

gui - graphical user interface, inc. for service creation

resource management

protocols - X.25, TCAP etc.

SCP architecture

virtual networks - inc. PVN

mobile networks

multivendor and hybrid, e.g. public/private networks, inc. international

Internet - WWW, HTML, browsers etc.

distributed systems - also domains in service creation

routing

numbering plans, e.g. number re-allocation

network planning, configuration management, e.g. for growth

modeling or simulation, particularly of networks

monitoring of signaling messages, intelligent network

Intelligent Peripheral

subscriber, e.g. profile, database, database access

call modeling, e.g. Basic Call State Model

congestion - inc. overflow

blocking

call gapping, e.g. to prevent congestion

load balancing

restoration, e.g. disaster recovery, self-healing networks

mediation

negotiation, management policy, goals

collect call, e.g. 800 service

least cost routing

busy test, e.g. marking busy

hunting for free outlet, circuit, channel

searching a free path through cascaded switching stages

rerouting, e.g. on failure

rearrangement

waiting

automatic call retry

automatic redialling

service observation; Fault circuit; Testing

blocking or cutoff of faulty apparatus, e.g. timed out

fault indication, e.g. localisation

fault alarm

traffic registration; Adaptation of traffic possibilities

Broadband, CATV, dynamic bandwidth allocation

Earth satellites

Key telephone systems

Simulation, emulation

store & forward, messaging systems (email H04Q 2213/13375)

picturephone, videotelephony

Do-not-disturb

Ciphering, encryption, security

configuration within the switch

Connections within the switch

Arrangement of switches in the network

Neural networks

overflow

Intelligent networks, SCP

Channel/line reservation

Network management

Self-routing networks, real-time routing

Routing table, map memory

Synchronisation

Synchronous systems

Asynchronous systems

Pulse stuffing, bit stuffing

Hierarchical multiplexing, add-drop multiplexing

Operator, emergency services

Intercepting operator

Paging

Electronic mail

Information service, downloading of information, 0800/0900 services

Recorded announcement

Speech recognition, speech analysis

Inter-exchange connection

Pair-gain system, digital loop carriers

Hierarchy of switches, main and subexchange, e.g. satellite exchange

Inter-PBX traffic, PBX networks, e.g. corporate networks

Off-net subscriber

Line concentrator

Call gapping

Saturation signaling systems

LAN, internet

Fixed association of channels

Channel assigned to connections

Channels assigned according to rules

Time slot switching, T-stage, time slot interchanging, TSI

Permanent channel, leased line

Signing in general, in-band signalling

Virtual channel/circuits

Coin box

Data transmission out of voice frequency band (ADSL H04Q 2213/13309)

Dual frequency signaling, DTMF

Detection of data transmission mode

Service creation

Feature interactions

primitives - inc. service-independent building blocks [SIBBs]

object-oriented systems

client/server architectures
2213/166 . Prevention of faults
2213/167 . Redundancy
2213/171 . Number indicating signals (no dial signals)
2213/172 . Supervisory signals
2213/173 . Busy signal
2213/174 . Data transmission
2213/175 . Other signals
2213/176 . Common channel signalling
2213/177 . Number sending signals, e.g. dialling tone, proceed to send
2213/178 . Control signals, e.g. also service connection
2213/179 . Facsimile; Fax, e.g. still picture
2213/18 . Ringing
2213/182 . Ring trip
2213/19 . Echo-cancelling; Hybrid; Amplifier; Attenuator
2213/191 . Repeater
2213/192 . Common amplifier for bidirectional traffic
2213/194 . Four-wire connection or transmission
2213/196 . Connection-circuit; Trunk; Junction circuit
2213/197 . Ping-pong transmission
2213/198 . Temporary associated devices; Pooled adapters
2213/199 . Modem
2213/20 . ISDN
2213/201 . Change-over service
2213/202 . Network termination [NT]
2213/203 . Exchange termination [ET]
2213/204 . ISDN protocol; ISO 7
2213/205 . Primary rate access
2213/206 . User-to-user signalling
2213/208 . Inverse multiplexing; Time slot sequence integrity [TSSI] aspects
2213/21 . Impulse transmission
2213/211 . Impulse correction or reshaping
2213/212 . Absorbing of digits
2213/214 . Phase shifted impulses; Clock signals; Timing
2213/215 . Code checking
2213/216 . Code signals; Framing (not synchronizing)
2213/217 . Setting of switch by means of pulses
2213/218 . Bistable relays, e.g. Ferreed
2213/22 . PBX
2213/222 . PBX circuits in public exchange (Centrex)
2213/23 . Partyline
2213/24 . Conference circuit
2213/242 . Broadcast and multicast (1:N)
2213/243 . Con-cast, e.g. multipoint-point (N:1)
2213/246 . Instant speaker’s algorithm [ISA]
2213/25 . Preferential service
2213/251 . Restricted service
2213/252 . Breaking-in on existing connection
2213/256 . Call screening
2213/26 . Call-back
2213/27 . Release
2213/271 . Forced release
2213/272 . Premature release
2213/274 . Call rejection
2213/28 . Call transfer
2213/281 . Prepared call transfer, e.g. night service, intercepting service
2213/282 . Call forwarding
2213/284 . Call tracing
2213/286 . Direct inward dialling [PBX]
2213/287 . Call service, e.g. morning call service
2213/289 . ATM
2213/291 . Frequency division multiplex
2213/292 . Time (de)multiplexing
2213/293 . Irregular time switching, e.g. TASI; Burst switching
2213/294 . Other multiplexing systems, e.g. codemultiplex, TDM, FDM, FDM and Space division, TDM and Space division
2213/295 . Wavelength division multiplex
2213/296 . Packet switching
2213/297 . Coupling circuits between different (rate) TDM systems
2213/298 . Loop or ring system
2213/299 . Bus
2213/301 . Tubes and other non-linear elements with 2 electrodes, e.g. diodes
2213/302 . Magnetic elements
2213/303 . Tubes and other non-linear elements with more than two electrodes
2213/304 . Superconductors; Thermistors; Varistors
2213/305 . Transistors
2213/306 . Ferrro-electric elements
2213/307 . Hall elements
2213/308 . Photo conductors; Photo elements
2213/31 . Delay devices; Circuits, e.g. shift memories
2213/32 . Logic elements
2213/322 . Integrated circuit
2213/33 . Special systems; Special service
2213/331 . Abbreviated dialing
2213/332 . Broadband system
2213/333 . Systems with earth-satellites
2213/334 . Key telephone system
2213/335 . Simulation
2213/336 . Store and forward, e.g. message switching
2213/337 . Picturephone
2213/338 . Do not disturb
2213/339 . Ciphering/encryption
2213/34 . General scheme; Position of components in an exchange
2213/341 . Contactbank connections
2213/342 . General scheme; Position of exchanges
2213/343 . Neural network
2213/344 . Overflow
2213/345 . Intelligent network
2213/346 . Switch with inverted grouping
2213/347 . Nodal network
2213/348 . Reservation of lines/channels
2213/349 . Network management; Expert system
2213/35 . Separate control and speech paths, e.g. route-searching planes
2213/352 . Self-routing switch
2213/353 . Map memory
2213/356 . Synchronisation
2213/361 . Synchronous system
2213/362 . Asynchronous system
2213/363 . Bit or pulse stuffing
2213/366 . Integrated systems, e.g. transparency
2213/367 . Multiple multiplexing; Hierarchical multiplexing
2213/37 . Operator
2213/372 . Intervention by operator; Intercepting operator
2213/374 . Paging
2213/375 . Electronic mail