ECLA EUROPEAN CLASSIFICATION

H04J MULTIPLEX COMMUNICATION (transmission in general H04B; peculiar to transmission of digital information H04L5/00; systems for the simultaneous or sequential transmission of more than one television signal H04N7/08; in exchanges H04Q11/00; stereophonic systems H04S)

Note
This subclass covers

- circuits or apparatus for combining or dividing signals for the purpose of transmitting them simultaneously or sequentially over the same transmission path;
- monitoring arrangements therefor.

H04J1/00 **Frequency-division multiplex systems** (H04J14/00 takes precedence)

H04J1/02 . Details

H04J1/04 . . Frequency-transposition arrangements [N: modulation with carrier or side-band suppression H03C1/52, H03C1/60; single-band suppression H04B1/00, H04B15/00; telegraphic communication H04L27/02, H04L25/49; transference of modulation from one carrier to another, e.g. frequency- changing H03D7/00; demodulation or transference of modulation of modulated electromagnetic waves H03D9/00]

H04J1/04B . . . [N: Filters applied to frequency transposition]

H04J1/05 . . . using digital techniques

H04J1/06 . . Arrangements for supplying the carrier waves [N: Arrangements for supplying synchronisation signals (carrier supply H04L5/10; frequency multiplication H03B19/00, H03B21/00; mixing H03D7/00, H03D9/00; synchronisation in general H03B)]

H04J1/06B . . . [N: Synchronisation of carrier sources at the receiving station with the carrier source at the transmitting station]

H04J1/08 . . Arrangements for combining channels [N: (branching filters H01P1/213, H03H7/46)]

H04J1/08B . . . [N: Terminal station; Combined modulator and demodulator circuits]

H04J1/10 . . Intermediate station arrangements, e.g. for branching, for tapping-off [N: repeater circuits H04B3/36, H04B3/58; two-way amplifiers H03F3/62]

H04J1/12 . . Arrangements for reducing cross-talk between channels [N: in line transmission systems H04B3/32; in cables or lines H04B3/26 to H04B3/30]

H04J1/14 . . Arrangements providing for calling or supervisory signals

H04J1/16 . . Monitoring arrangements [N: (for transmission in general H04B17/00; for amplifiers H03F1/52, H03F1/52B)]

H04J1/18 . . in which all the carriers are amplitude-modulated (H04J1/02 takes precedence) [N: in telephony H04Q11/02, H04Q11/02C ; in stereophony H04H; in telegraphy H04L5/06; in telemetry G08C15/02, G08C15/04]

H04J1/20 . in which at least one carrier is angle-modulated (H04J1/02 takes precedence; FM without multiplex H04B1/00, H04B14/00B2, H04B15/00; PSK H04L5/12; impulse-modulation without multiplex H04B14/02; time-division multiplexing for data transmission H04L5/22; telemetry G08C15/06 to G08C15/12; telephony H04Q11/00,

H04Q11/04, H04Q11/04C)

H04J3/00	**Time-division multiplex systems** (H04J14/00 takes precedence; relay systems H04B7/14; selecting techniques H04Q)
H04J3/02	. Details (electronic switching or gating H03K17/00)
H04J3/02B	. . [N: Filter arrangements (H04J3/08takes precedence; filters per seH03H7/00,H03H9/00)]
H04J3/04	. . Distributors combined with modulators or demodulators [N: (pulse distributors in general H03K5/15; pulse counters H03K21/00 to H03K29/06; for telegraphy H04L5/22, H04L13/00 to H04L23/00, H04L25/45; for telephony H04Q11/04)]
H04J3/04B	. . . [N: Distributors with electron or gas discharge tubes]
H04J3/04C	. . . [N: Distributors with CRT]
H04J3/04D	. . . [N: Distributors with transistors or integrated circuits]
H04J3/06	. . Synchronising arrangements [N: (for television systems H04N5/04; bit-synchronisation H04L7/00)] [C9408]
H04J3/06A	. . . [N: Systems characterised by the synchronising information used]
H04J3/06A1	. . . . [N: Special codes used as synchronising signal]
H04J3/06A1A	. . . . . [N: Detectors therefor, e.g. correlators, state machines] [C0807]
H04J3/06A1B	. . . . . [N: PN codes (H04J3/06A1A takes precedence)]
H04J3/06A2	. . . . [N: the synchronising signal being characterised by the amplitude, duration or polarity]
H04J3/06A3	. . . . [N: the synchronising signal being characterised by the frequency or phase]
H04J3/06B	. . . [N: Synchronisation of signals having the same nominal but fluctuating bit rates, e.g. using buffers (pulse-stuffing H04J3/07; asynchronous-synchronous conversion H04L5/24; speed conversion H04L25/05; speed conversion in computers G06F5/06)] [C0505]
H04J3/06B2	. . . . [N: Synchronous multiplexing systems, e.g. synchronous digital hierarchy/synchronous optical network (SDH/SONET), synchronisation with a pointer process] [N9408] [C0505]
H04J3/06B4	. . . . [N: plesiochronous multiplexing systems, e.g. plesiochronous digital hierarchy (PDH), jitter attenuators] [N9408]
H04J3/06B4A	. . . . . [N: in a network, e.g. in combination with switching or multiplexing, slip buffers] [N9408]
H04J3/06B6	. . . . [N: Synchronisation of packets and cells, e.g. transmission of voice via a packet network, circuit emulation service (CES)] [N9408] [C0505]
H04J3/06C	. . . [N: Clock or time synchronisation in a network (timer in protocols H04L69/28)] [N1204] [C1207]
H04J3/06C1	. . . . [N: Clock or time synchronisation among nodes; Internode synchronisation(synchronization for ring networks H04L12/42S; data switching networks with synchronous transmission H04L12/43)] [N1204]
H04J3/06C1A	. . . . . [N: Change of the master or reference, e.g. take-over or failure of the master] [C0311]
H04J3/06C1B	. . . . . [N: External master-clock]
H04J3/06C1C	. . . . . [N: Synchronisation among TDM nodes] [N1204]
H04J3/06C1C2	. . . . . [N: using timestamps] [N1204]
H04J3/06C1D	. . . . . [N: Synchronisation among time division multiple access [TDMA] nodes,

e.g. time triggered protocol [TTP](bus network with centralized control in which slots are of a TDMA packet structure H04L12/403B)] [N1204]

H04J3/06C1D2 . . . . . [N: using timestamps] [N1204]

H04J3/06C1P . . . . . [N: Clock or time synchronisation among packet nodes] [N1204]

H04J3/06C1P2 . . . . . [N: using timestamps] [N1204]

H04J3/06C1P2A . . . . . {7 dots} [N: unidirectional timestamps] [N1204]

H04J3/06C1P2B . . . . . {7 dots} [N: Bidirectional timestamps, e.g. NTP or PTP for compensation of clock drift and for compensation of propagation delays (monitoring or testing of delay in data switching networks H04L12/26M3C)] [N1204]

H04J3/06C1P2S . . . . . {7 dots} [N: Details of the timestamp structure] [N1204]

H04J3/06C1P4 . . . . . [N: using intermediate nodes, e.g. modification of a received timestamp before further transmission to the next packet node, e.g. including internal delay time or residence time into the packet] [N1204]

H04J3/06C2 . . . . [N: Mutual]

H04J3/06C3 . . . . [N: by determining clock distribution path in a network] [C9408]

H04J3/06C4 . . . . [N: by delay compensation, e.g. by compensation of propagation delay or variations thereof, by ranging] [N9408]

H04J3/06C5 . . . . [N: Clock or time synchronisation in a node; Intranode synchronisation] [N1204]

H04J3/06C5A . . . . . [N: Change of the master or reference, e.g. take-over or failure of the master] [N0111] [C0311]

H04J3/06C5C . . . . . [N: Synchronisation in a TDM node] [N1204]

H04J3/06C5D . . . . . [N: Synchronisation in a TDMA node, e.g. TTP] [N1204]

H04J3/06C5P . . . . . [N: Synchronisation in a packet node] [N1204]

H04J3/07 . . . using pulse stuffing for systems with different or fluctuating information rates [N: or bit rates] [C9408]

H04J3/07P . . . . [N: Bit stuffing, e.g. PDH] [N9408]

H04J3/07Q . . . . [N: Bit and byte stuffing, e.g. SDH/PDH desynchronisers, bit-leaking] [N9408]

H04J3/08 . . Intermediate station arrangements, e.g. for branching, for tapping-off

H04J3/08A . . . [N: for ring networks, e.g. SDH/SONET rings, self-healing rings, meashed SDH/SONET networks] [N9502] [C9507]

H04J3/10 . . Arrangements for reducing cross-talk between channels

H04J3/12 . . Arrangements providing for calling or supervisory signals

H04J3/12B . . . [N: One of the channel pulses or the synchronisation pulse is also used for transmitting monitoring or supervisory signals]

H04J3/14 . . Monitoring arrangements [N: (for SDH/SONET rings H04J3/08A)] [C9806]

H04J3/16 . in which the time allocation to individual channels within a transmission cycle is variable, e.g. to accommodate varying complexity of signals, to vary number of channels transmitted (H04J3/17, H04J3/24 take precedence)

H04J3/16A . . [N: Fixed allocated frame structures]

H04J3/16A2 . . . [N: Synchronous digital hierarchy (SDH) or SONET (H04J3/16A6B takes precedence for interactions with OTN)] [C0807]

H04J3/16A2A . . . . [N: carrying packets or ATM cells] [N9412]

H04J3/16A4 . . . [N: Plesiochronous digital hierarchy (PDH)]

H04J3/16A4B . . . . [N: Format building algorithm]

H04J3/16A4C . . . . [N: Format conversion, e.g. CEPT/US]

H04J3/16A4H . . . . [N: Hierarchical systems]

H04J3/16A4S . . . . [N: Subrate or multislot multiplexing]

H04J3/16A6 . . . [N: Optical Transport Network (OTN)] [N0807]

H04J3/16A6A . . . . [N: carrying packets or ATM cells; H04J3/16A6B takes precedence for payloads with different packet types] [N0807]

H04J3/16A6B . . . . [N: carrying hybrid payloads, e.g. different types of packets or carrying frames and packets in the paylaod] [N0807]

H04J3/16A6C . . . . [N : interaction with SDH/SONET, e.g. carrying SDH/SONET frames, interfacing with SDH/SONET; H04J3/16A6B takes precedence]

H04J3/16B . . [N: Time-division multiplex with pulse-position, pulse-interval, or pulse-width modulation]

H04J3/16C . . [N: Allocation of channels according to the instantaneous demands of the users, e.g. concentrated multiplexers, statistical multiplexers] [C9806]

H04J3/16C1 . . . [N: the demands of the users being taken into account after redundancy removal, e.g. by predictive coding, by variable sampling (reducing bandwidth of signals in general H04B1/66; in PCM-systems H04B14/04D; removal of redundancy in telegraph communication H03M7/30)]

H04J3/16D . . [N: Allocation of channels in TDM/TDMA networks, e.g. distributed multiplexers (Passive Optical Networks T04Q11/00P4)] [N9806] [C0509]

H04J3/17 . in which the transmission channel allotted to a first user may be taken away and re-allotted to a second user if the first user becomes inactive, e.g. TASI [N: (speech analysis or identification G10L)]

H04J3/17B . . [N: Digital speech interpolation, i.e. DSI]

H04J3/17C . . [N: Speech activity or inactivity detectors (echo suppressors H04B3/20)]

H04J3/17D . . [N: Freeze-out systems, e.g. taking away active sources from transmission]

H04J3/18 . using frequency compression and subsequent expansion of the individual signals

H04J3/20 . using resonant transfer

H04J3/22 . in which the sources have different rates or codes [N: (simultaneous speech and digital data or video transmission H04M11/06; see provisional also H04J3/16)]

H04J3/24 . in which the allocation is indicated by an address [N: the different channels being transmitted sequentially] (H04J3/17 takes precedence; in computers G06F12/00, G06F13/00 [N: code multiplex systems H04J13/00; selecting techniques H04Q; relay systems H04B7/14])

H04J3/24B . . [N: the frames being of variable length]

H04J3/24C . . [N: in which the allocation protocols between more than two stations share the same transmission medium (stations for satellite systems H04B7/185)]

H04J3/24D . . [N: ATM or packet multiplexing] [N9507]

H04J3/26 . . in which the information and the address are simultaneously transmitted [C9507]

H04J4/00 **Combined time-division and frequency-division multiplex systems** (H04J13/00 takes precedence; [N: data transmission H04L5/26; telemetry G08C15/00])

H04J4/00T . [N: Transmultiplexing] [N9505]

H04J7/00 **Multiplex systems in which the amplitudes or durations of the signals in individual channels are characteristic of those channels**

H04J7/02 . in which the polarity of the amplitude is characteristic

H04J9/00 **Multiplex systems in which each channel is represented by a different type of modulation of the carrier**

H04J11/00 **Orthogonal multiplex systems,** [N: e.g. using WALSH codes] (H04J13/00 takes precedence) [C9906]

H04J11/00F . [N: Interference mitigation or co-ordination (traffic scheduling H04W72/08B, H04W72/12B5; power management H04W52/00; allocation criteria for ingress interference avoidance H04L5/00C7B; frequency allocation criteria for requirements on out-of-channel emissions H04L5/00C7D; peak power aspects in multicarrier modulation H04L27/26M2; arrangements for removing intersymbol interference or baseband equalisers H04L25/03B; direct sequence spread spectrum (DSSS) systems H04B1/707F; frequency hopping H04B1/713)] [N1010]

H04J11/00F1 . . [N: of multi-user interference] [N1010]

H04J11/00F1A . . . [N: at the transmitter (transmission to multiple receive units in multiple input multiple output (MIMO) H04B7/04M5; transmit antenna weighting H04B7/06C1)] [N1010]

H04J11/00F1A1 . . . . [N: by pre-cancellation of known interference, e.g. using a matched filter, dirty paper coder or Thomlinson-Harashima precoder (correlative coding in synchronous or start-stop systems H04L25/497)] [N1010]

H04J11/00F1B . . . [N: at the receiver] [N1010]

H04J11/00F1B1 . . . . [N: using regenerative subtractive interference cancellation] [N1010]

H04J11/00F1B1A . . . . . [N: by grouping or ordering the users] [N1010]

H04J11/00F1B2 . . . . [N: using joint detection algorithms] [N1010]

H04J11/00F2 . . [N: of intercell interference] [N1010]

H04J11/00F2A . . . [N: using co-ordinated multipoint transmission/reception (co-ordinated antenna or beam-forming aspects H04B7/02M)] [N1010]

H04J11/00F2B . . . [N: Inter-base station aspects] [N1010]

H04J11/00F2C . . . [N: Out-of-cell user aspects] [N1010]

H04J11/00F3 . . [N: of multipath interference, e.g. Rake receivers] [N1010]

H04J11/00F4 . . [N: of narrowband interference (narrowband interference reduction H04B1/10E2)] [N1010]

H04J11/00J . [N: Cell search, i.e. determining cell identity [cell-ID] (design of multiplexing codes H04J13/00; processing access restriction or access information H04W48/16; discovery of network devices for network data management H04W08/00D; sounding signals for channel estimation H04L25/02C7A; structure of reference signals in multicarrier modulation systems H04L27/26M1R3; frame, time or carrier synchronisation in multicarrier modulation systems H04L27/26M5C)] [N1010]

H04J11/00J1 . . [N: Acquisition of primary synchronisation channel, e.g. detection of cell-ID within cell-ID group] [N1010]

H04J11/00J2 . . [N: Acquisition of secondary synchronisation channel, e.g. detection of cell-ID group] [N1010]

H04J11/00J3 . . [N: Acquisition of downlink reference signals, e.g. detection of cell-ID] [N1010]

H04J11/00J4 . . [N: Multi-mode cell search, i.e. where several modes or systems can be used, e.g. backwards compatible, dual mode or flexible systems] [N1010]

H04J11/00J5 . . [N: Search parameters, e.g. search strategy, accumulation length, range of search, thresholds (code acquisition in DSSS H04B1/707A)] [N1010]

H04J11/00J6 . . [N: Search hardware arrangements, e.g. sharing of correlators to reduce complexity] [N1010]

H04J11/00J7 . . [N: Neighbour cell search] [N1010]

H04J13/00 **Code division multiplex systems** (for frequency hopping H04B1/713) **[C2010.10] [M2010.12]**

Note [N1010]
When classifying in this group, any aspect of spread spectrum techniques not specific to frequency hopping, and which is considered to represent information of interest for search, may also be classified in group H04B1/69.

H04J13/00A . [N: Code application, i.e. aspects relating to how codes are applied to form multiplexed channels] [N1010]

H04J13/00B . [N: Code type] [N1010]

[N: **Note** [N1010]
Code type information should be classified in addition to other relevant aspects. This should also be done in cases where the other relevant symbol refers to code type, e.g. H04J13/14, H04J13/20)
]

H04J13/00B1 . . [N: Complementary] [N1010]

H04J13/00B1A . . . [N: Golay] [N1010]

H04J13/00B3 . . [N: Chaotic] [N1010]

H04J13/00B5 . . [N: PN, e.g. Kronecker] [N1010]

H04J13/00B5A . . . [N: M-sequences] [N1010]

H04J13/00B5B . . . [N: Gold] [N1010]

H04J13/00B5C . . . [N: Kasami] [N1010]

H04J13/00B7 . . [N: Orthogonal] [N1010]

H04J13/00B7A . . . [N: OVSF [orthogonal variable spreading factor]] [N1010]

H04J13/00B7B . . . [N: Walsh] [N1010]

H04J13/00B7C . . . [N: Orthogonal gold] [N1010]

H04J13/00B9 . . [N: ZCZ [zero correlation zone]] [N1010]

H04J13/00B9A . . . [N: CAZAC [constant-amplitude and zero auto-correlation]] [N1010]

H04J13/00B9A1 . . . . [N: Zadoff-Chu] [N1010]

H04J13/00B9A3 . . . . [N: GCL [generalized chirp-like] sequences] [N1010]

H04J13/00B9B . . . [N: LAS, i.e. LA, LS and LAS codes] [N1010]

H04J13/00C . [N : Code shifting or hopping] [N1010]

H04J13/00D . [N: Multicode, e.g. multiple codes assigned to one user] [N1010]

H04J13/10 . Code generation [N1010]

H04J13/10A . . [N: Combining codes] [N1010]
H04J13/10A1 . . . [N: by extending] [N1010]
H04J13/10A2 . . . [N: by concatenation] [N1010]
H04J13/12 . . Generation of orthogonal codes [N1010]
H04J13/14 . . Generation of codes with a zero correlation zone [N1010]

H04J13/16 . Code allocation [N1010]
H04J13/18 . . Allocation of orthogonal codes [N1010]
H04J13/20 . . . having an orthogonal variable spreading factor [OVSF] [N1010]
H04J13/22 . . Allocation of codes with a zero correlation zone [N1010]

H04J14/00 **Optical multiplex systems** (optical coupling, mixing or splitting, per se G02B) [C0305]

H04J14/00C . [N: Coherencemultiplexing] [N0102]

H04J14/00S . [N: Optical Code Multiplex] [N0305]
H04J14/00S2 . . [N: Orthogonal Optical Code Multiplex] [N0305]

H04J14/02 . Wavelength-division multiplex systems
H04J14/02A . . [N: Add-and-drop multiplexing] [N9604]
H04J14/02A1 . . . [N: Arrangements therefor] [N1108]
H04J14/02A1B . . . . [N: Broadcast and select arrangements, e.g. with an optical splitter at the input before adding or dropping] [N1108]
H04J14/02A1C . . . . [N: Select and combine arrangements, e.g. with an optical combiner at the output after adding or dropping] [N1108]
H04J14/02A1E . . . . [N: Express channels arrangements] [N1108]
H04J14/02A1L . . . . [N: Interleaved arrangements] [N1108]
H04J14/02A1M . . . . [N: Multi-stage arrangements, e.g. by cascading multiplexers or demultiplexers] [N1108]
H04J14/02A1R . . . . [N: Reconfigurable arrangements, e.g. reconfigurable optical add/drop multiplexers [ROADM] or tunable optical add/drop multiplexers [TOADM]] [N1108]
H04J14/02A1R2 . . . . . [N: using optical switches or wavelength selective switches [WSS]] [N1108]
H04J14/02A1W . . . . [N: Groups of channels or wave bands arrangements] [N1108]
H04J14/02A2 . . . [N: Architecture aspects] [N1108]
H04J14/02A2B . . . . [N: Bidirectional architectures] [N1108]
H04J14/02A2D . . . . [N: Multi-degree architectures, e.g. having a connection degree greater than two] [N1108]
H04J14/02A2M . . . . [N: Modular or upgradable architectures] [N1108]
H04J14/02A2N . . . . [N: For interconnection of WDM optical networks] [N1108]
H04J14/02B . . [N: Power control, e.g. to keep the total optical power constant] [N9604]
H04J14/02C . . [N: Conversion to or from optical TDM] [N9604]
H04J14/02D . . [N: Irregular wavelength spacing, e.g. to accomodate interference to all wavelengths] [N9604]
H04J14/02F . . [N: Fixed carrier allocation, e.g. according to service] [N9604]

H04J14/02M . . [N: Operation, administration, maintenance or provisioning [OAMP] of WDM network, e.g. media access, routing or wavelength allocation (monitoring of optical transmission parameters in general H04B10/07)] [N1204]

H04J14/02M10 . . . [N: Wavelength allocation for communications one to all, e.g. broadcasting wavelengths] [N1204]

H04J14/02M10B . . . . [N: in WDM passive optical networks [WDM-PON]] [N1204]

H04J14/02M10B4 . . . . . [N1204]

H04J14/02M10B4D . . . . . [N: for downstream transmission] [N1204]

H04J14/02M10B4D2 . . . . . {7 dots} [N: using multiple wavelengths] [N1204]

H04J14/02M10B4F . . . . . [N: for upstream transmission] [N1204]

H04J14/02M10B4F2 . . . . . {7 dots} [N: using multiple wavelengths] [N1204]

H04J14/02M20 . . . [N: Wavelength allocation for communications one to many, e.g. multicasting wavelengths] [N1204]

H04J14/02M20B . . . . [N: in WDM-PON sharing multiple downstream wavelengths for groups of optical network units [ONU], e.g. multicasting wavelengths] [N1204]

H04J14/02M30 . . . [N: Wavelength allocation for communications one to one, e.g. unicasting wavelengths] [N1204]

H04J14/02M30B . . . . [N: in WDM-PON] [N1204]

H04J14/02M30B4 . . . . . [N1204]

H04J14/02M30B4D . . . . . [N: for downstream transmission, e.g. optical line terminal [OLT] to ONU] [N1204]

H04J14/02M30B4D2 . . . . . {7 dots} [N: using one wavelength per ONU] [N1204]

H04J14/02M30B4D4 . . . . . {7 dots} [N: Sharing one wavelength for at least a group of ONU's] [N1204]

H04J14/02M30B4F . . . . . [N: for upstream transmission, e.g. ONU to OLT or ONU to ONU] [N1204]

H04J14/02M30B4F2 . . . . . {7 dots} [N: using one wavelength per ONU, e.g. for transmissions from ONU to OLT or from ONU to ONU] [N1204]

H04J14/02M30B4F4 . . . . . {7 dots} [N: Sharing one wavelength for at least a group of ONU's, e.g. for transmissions from ONU to OLT or from ONU to ONU] [N1204]

H04J14/02M40 . . . [N: Optical medium access] [N1204]

H04J14/02M40A . . . . [N: at the optical channel layer] [N1204]

H04J14/02M40A2 . . . . . [N: Wavelength assignment algorithms] [N1204]

H04J14/02M40A4 . . . . . [N: Wavelength identification or wavelength labeling] [N1204]

H04J14/02M40A8 . . . . . [N: using WDM channels of different transmission rates] [N1204]

H04J14/02M40B . . . . [N: at the optical multiplex section layer] [N1204]

H04J14/02M40B2 . . . . . [N: Multiplex section layer wavelength assignment algorithms] [N1204]

H04J14/02M40B4 . . . . . [N: Multiplex identification or labelling] [N1204]

H04J14/02M40B6 . . . . . [N: Multiplex arrangements in bidirectional systems, e.g. interleaved allocation of wavelengths or allocation of wavelength groups] [N1204]

H04J14/02M40S . . . . [N: Optical signalling or routing, (routing in packet switched systems H04L12/56C)] [N1204]

H04J14/02M40S20 . . . . . [N: Restoration of optical paths, e.g. p-cycles (route fault recovery in packet switched systems H04L12/56C108)] [N1204]

H04J14/02M40S40 . . . . . [N: using tables for routing (organization of routing tables in packet switched systems H04L12/56C123)] [N1204]

H04J14/02M40S60 . . . . . [N: Impairment aware routing] [N1204]
H04J14/02M40V . . . . [N: Transmission of OAMP information (using a supervisory or additional signal for monitoring of optical transmission parameters in general H04B10/077)] [N1204]
H04J14/02M40V20 . . . . . [N: using optical overhead, e.g. overhead processing] [N1204]
H04J14/02M40V40 . . . . . [N: using an optical service channel] [N1204]
H04J14/02M40V60 . . . . . [N: using pilot tones] [N1204]
H04J14/02N . . [N: WDM optical network architectures] [N0806]
H04J14/02N1 . . . [N: WDM point-to-point architectures] [N0806]
H04J14/02N2 . . . [N: WDM bus architectures] [N0806]
H04J14/02N3 . . . [N: WDM tree architectures] [N0806]
H04J14/02N4 . . . [N: WDM ring architectures] [N0806]
H04J14/02N5 . . . [N: WDM mesh architectures] [N0806]
H04J14/02N6 . . . [N: WDM hierarchical architectures] [N0806]
H04J14/02P . . [N: Protection in WDM systems] [N0806]
H04J14/02P4 . . . [N: Optical multiplex section protection] [N0806]
H04J14/02P4D . . . . [N: Dedicated protection at the optical multiplex section (1+1)] [N0806]
H04J14/02P4S . . . . [N: Shared protection at the optical multiplex section (1:1, n:m)] [N0806]
H04J14/02P6 . . . [N: Optical channel protection] [N0806]
H04J14/02P6D . . . . [N: Dedicated protection at the optical channel (1+1)] [N0806]
H04J14/02P6S . . . . [N: Shared protection at the optical channel (1:1, n:m)] [N0806]
H04J14/02P8 . . . [N: Optical equipment protection] [N0806]
H04J14/02S . . [N: with sub-carrier multiplexing (SCM)]

H04J14/04 . Mode multiplex systems

H04J14/06 . Polarisation multiplex systems

H04J14/08 . Time-division multiplex systems
H04J14/08A . . [N: Add and drop multiplexing] [N9604]
H04J14/08M . . [N: Medium access (H04J3/16 takes precedence)] [N9604] [C9806]

H04J15/00 Multiplex systems not otherwise provided for