

Base : FAMPAT

SEARCH STRATEGY

SS Results

12	44	10 OR 8
11	6	10 AND 8
10	32	9 AND UPLINK AND DOWNLINK
9	239	4 AND CROSS+
8	18	5 AND CROSS+
7	0	5 AND CROSS_LINK
6	0	5 AND CROSS-LINK
5	238	4 AND SPOT BEAM
4	2316	2 AND 3
3	10395	(SATELLITE+ AND (COMMUNICATION+ OR NETWORK+) AND ANTENNA+ AND BEAM+)/TI/AB/IW/CLMS/OBJ/KEYW AND PD <= 2015-07-31
2	17282	..SIMILARITY SS 1 RANKED 1
1	1	(WO201723621)/PN

44 Documents

Publication numbers	Title	Current assignees
US20030054762 A1	System and method for terrestrial reuse of cellular satellite frequency spectrum	ATC TECHNOLOGIES, ...
WO2008108885 A2	Improved spot beam satellite systems	VIASAT
WO8801457 A1	Satellite communications system having frequency addressable high gain downlink beams	HUGHES AIRCRAFT, ...
CA2350904 A1	Multiple satellite beam laydown with switchable bands for hopped satellite downlink	NORTHROP GRUMMAN
EP-311919 A2	Satellite communications system employing frequency reuse.	HUGHES AIRCRAFT
CA2626187 A1	Multi-beam communication system and method	COM DEV INTERNATIONAL
FR2795576 A1	System comprising a satellite with radiofrequency antenna	CNES - CENTRE NATIONAL D ETUDES SPATIALES
US20050037749 A1	Co-channel interference reducing arrangement in a satellite communications systems, and method	ATC TECHNOLOGY
WO8801454 A1	Satellite communications system having multiple downlink beams powered by pooled transmitters	HUGHES AIRCRAFT, ...
WO9519078 A1	A cellular/satellite communications system with improved frequency re-use	ERICSSON
CA2641865 A1	Satellite communication bandwidth cross layer allocation system and related methods	HARRIS
WO200291639 A1	Method and apparatus for parameter estimation, modulation classification and interference characterization in satellite communication systems	COMSAT WASHINGTON DC
CA2307995 A1	Mitigation of co-channel interference in synchronization bursts in a multi-beam communication system	NORTHROP GRUMMAN, ...
FR2942090 A1	Telecommunication network with a multispot beam communication satellite and an operating center determining transmission parameters according to the position of ground terminals.	EUTELSAT
WO2011138563 A1	Terrestrial-satellite hybrid system for high capacity cellular wireless communications	CNES - CENTRE NATIONAL D ETUDES SPATIALES
US20090023384 A1	Capacity maximization for a unicast spot beam satellite system	VIASAT
EP1473799 A1	Beam steered multizone satellite	ALCATEL, ...
WO8801441 A1	Beam-forming network	HUGHES AIRCRAFT, ...
GB9706345 D0	Satellite communications terminal location system and method	DBSD SERVICES
US20050226418 A1	Method and apparatus for indentifying co-channel interference	DTV G LICENSING

Publication numbers	Title	Current assignees
DE2050173 A1	Edge switching systems of communications satellites to time sharing.	COMSAT - COMMUNICATIONS SATELLITE CORPORATION
CA2336757 A1	Communication system utilizing multiple satellites without intersatellite crosslinks	NORTHROP GRUMMAN, ...
WO201325932 A2	Overlaying an air to ground communication system on spectrum assigned to satellite systems	QUALCOMM
WO200227976 A1	Spread spectrum communication system using a quasi-geostationary satellite	SES ASTRA
WO9956408 A1	A method and apparatus for predicting spot beam and satellite handover in a mobile satellite communication network	ECHOSTAR SATELLITE SERVICES, ...
WO201076290 A1	Calibration apparatus and method	ASTRIUM
EP-677929 A1	Satellite communication systems using demand assignment multiple access in multi-spot beam.	NEC
WO8801455 A2	Filter interconnection matrix	HUGHES AIRCRAFT, ...
CA2347548 A1	Dual receive ground terminal for use in communication systems utilizing multiple satellites	NORTHROP GRUMMAN, ...
DE3516811 A1	Geostationary communications satellite	MESSERSCHMITT BOELKOW BLOHM
WO2006120670 A2	Method and device for indirect communication within a wimax network	WINETWORKS
US6002360 A	Microsatellite array and related method	NORTHROP GRUMMAN, ...
US3710255 A	Satellite communication system	RAYTHEON
US6611226 B1	Medium earth orbit satellite surveillance system and antenna configuration therefore	DIRECTV
KR20040085054 A	Satellite communication system, base station, and mobile station	MITSUBISHI ELECTRIC
CA2266154 A1	Satellite based earth fixed cell tracking method	KOSTYA SANDOR, ...
US4931802 A	Multiple spot-beam systems for satellite communications	VIZADA
US20150123843 A1	Receiver dual-reflector antenna system for interference suppression onboard satellite	LOCKHEED MARTIN
US4181886 A	Distribution control unit providing simultaneous hybrid FDMA and SS-TDMA operation in a transitional satellite switched system	INTERNATIONAL TELECOMMUNICATIONS SATELLITE ORGANIZATION, ...
US4150335 A	Highly reliable distribution control unit with improved control capability	COMSAT - COMMUNICATIONS SATELLITE CORPORATION
CN102571187 A	Method for optimizing satellite communication link supportive system	BEIHANG UNIVERSITY OF AERONAUTICS &

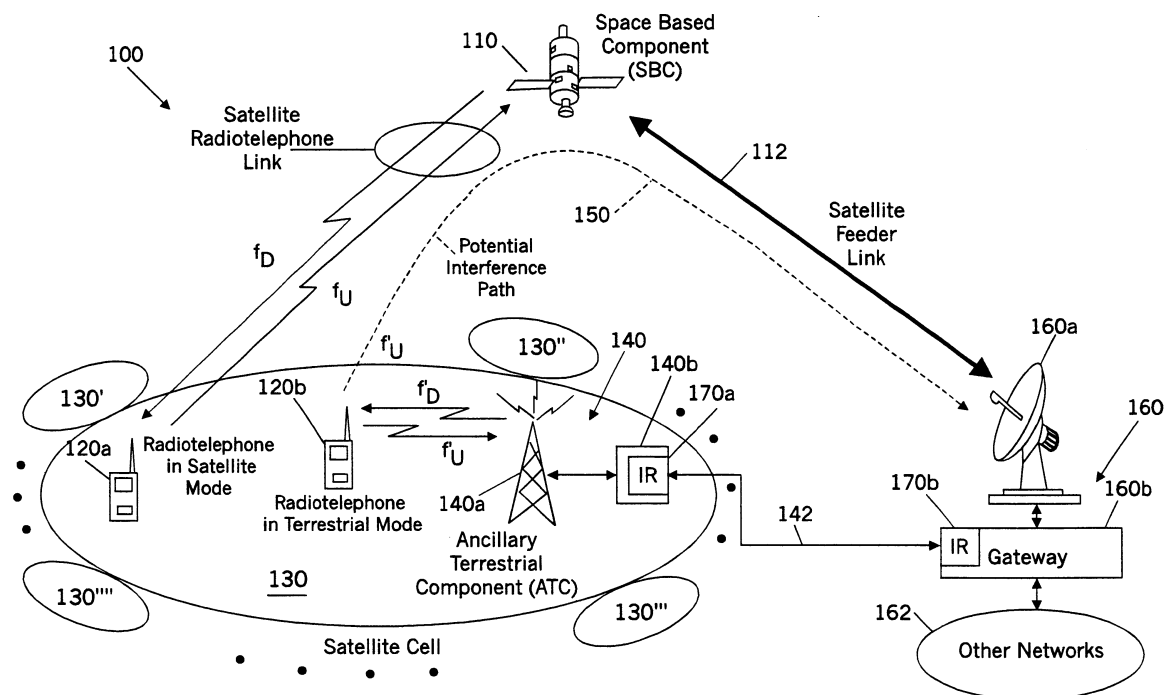
Publication numbers	Title	Current assignees
ASTRONAUTICS		
WO9845964 A1	Methods and apparatus for controlling earth-station transmitted power in a vsat network	GILAT SATELLITE NETWORKS
JP08331033 A	Setting method for satellite and ground communication channel and position decision and registration method for mobile station	MITSUBISHI ELECTRIC
JP2005295090 A	Satellite communication system and apparatus	MITSUBISHI ELECTRIC

Family 1/44 - FAMPAT - ©Questel

Title

(EP2256956)

System and method for terrestrial reuse of cellular satellite frequency spectrum

Images**Publication data including kind & date**

US20030054762	A1	2003-03-20	US20030054762
US20030054815	A1	2003-03-20	US20030054815
US20030054761	A1	2003-03-20	US20030054761
US20030054814	A1	2003-03-20	US20030054814
US20030054760	A1	2003-03-20	US20030054760
WO03026143	A2	2003-03-27	WO200326143
WO03026142	A2	2003-03-27	WO200326142
CA2460495	A1	2003-03-27	CA2460495
CA2460494	A1	2003-03-27	CA2460494
WO03026327	A1	2003-03-27	WO200326327
WO03026329	A1	2003-03-27	WO200326329
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CA2460325	A1	2003-03-27	CA2460325
CA2460323	A1	2003-03-27	CA2460323
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US20030068978	A1	2003-04-10	US20030068978
US20030073436	A1	2003-04-17	US20030073436
WO03026142	A3	2003-08-21	WO200326142
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EP1425929	A1	2004-06-09	EP1425929
EP1425926	A1	2004-06-09	EP1425926
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EP1433340	A2	2004-06-30	EP1433340				
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US20040192293	A1	2004-09-30	US20040192293				
MXPA04002462	A	2005-04-08	MX2004PA002462				
MXPA04002461	A	2005-04-08	MX2004PA002461				
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US20050118948	A1	2005-06-02	US20050118948				
US20050245192	A1	2005-11-03	US20050245192				
US20050282542	A1	2005-12-22	US20050282542				
US6999720	B2	2006-02-14	US6999720				
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US7006789	B2	2006-02-28	US7006789				
US7031702	B2	2006-04-18	US7031702				
US7039400	B2	2006-05-02	US7039400				
US7062267	B2	2006-06-13	US7062267				
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CA2588191	A1	2006-07-06	CA2588191				
US7113778	B2	2006-09-26	US7113778				
US7155340	B2	2006-12-26	US7155340				
AU2002329831	B2	2007-01-18	AU2002329831				
AU2002329697	B2	2007-01-18	AU2002329697				
AU2002330987	B2	2007-02-08	AU2002330987				
US7181161	B2	2007-02-20	US7181161				
US20070072545	A1	2007-03-29	US20070072545				
EP1829247	A1	2007-09-05	EP1829247				
US20070232298	A1	2007-10-04	US20070232298				
AU2002327518	B2	2007-10-25	AU2002327518				
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EP2134005	A1	2009-12-16	EP2134005				

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EP1425931	B1	2010-01-20	EP1425931				
US20100035606	A1	2010-02-11	US20100035606				
AT456200	T	2010-02-15	ATE456200				
US7664460	B2	2010-02-16	US7664460				
US20100039967	A1	2010-02-18	US20100039967				
DE60235177	D1	2010-03-11	DE60235177				
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CA2460494	C	2010-06-08	CA2460494				
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EP2209223	A1	2010-07-21	EP2209223				
EP2211487	A2	2010-07-28	EP2211487				
DE60236901	D1	2010-08-12	DE60236901				
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ES2346114	T3	2010-10-08	ES2346114				
AT484114	T	2010-10-15	ATE484114				
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EP2246996	A2	2010-11-03	EP2246996				
EP2211487	A3	2010-11-10	EP2211487				
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EP2256956	A2	2010-12-01	EP2256956				
EP2246996	A3	2010-12-01	EP2246996				
ES2351536	T3	2011-02-07	ES2351536				
ES2351785	T3	2011-02-10	ES2351785				
EP2134004	B1	2011-10-26	EP2134004				
AT531144	T	2011-11-15	ATE531144				
US8068828	B2	2011-11-29	US8068828				
US8078101	B2	2011-12-13	US8078101				
CA2460323	C	2012-01-03	CA2460323				
EP1425928	B1	2012-01-04	EP1425928				
AT540488	T	2012-01-15	ATE540488				
EP2209223	B1	2012-01-18	EP2209223				
EP2256956	A3	2012-01-25	EP2256956				
EP1829247	B1	2012-02-08	EP1829247				
AT545218	T	2012-02-15	ATE545218				
AT542313	T	2012-02-15	ATE542313				
EP2246996	B1	2012-02-22	EP2246996				
AT546893	T	2012-03-15	ATE546893				
EP1425926	B1	2012-10-03	EP1425926				
US8285278	B2	2012-10-09	US8285278				
CA2459549	C	2012-10-23	CA2459549				
CA2460495	C	2012-11-06	CA2460495				
CA2588191	C	2016-06-07	CA2588191				

Abstract

(EP2256956)

A satellite radiotelephone frequency (fU,fD) can be reused terrestrially by an ancillary terrestrial network (Fig. 1) even within the same satellite cell, using interference cancellation techniques. Moreover, the ancillary terrestrial network can use a modified range of satellite band forward link frequencies (fD) for transmission, to reduce interference with out-of-band receivers. A modified range of satellite band forward link frequencies that is used by the ancillary terrestrial network can include only a subset of the standard satellite band forward link frequencies to provide a guard band, can include power levels that monotonically decrease as a function of increasing frequency and/or can include two or more contiguous slots per frame that are left unoccupied and/or are transmitted at reduced maximum power. Time division duplex operation of the ancillary terrestrial network may also be provided over at least a portion of satellite band return frequencies.

Inventors

KARABINIS PETER

Latest standardized assignees - inventors removed

ATC TECHNOLOGIES

LIGHTSQUARED FINANCE

LIGHTSQUARED

MSV FINANCE

LIGHTSQUARED SUBSIDIARY

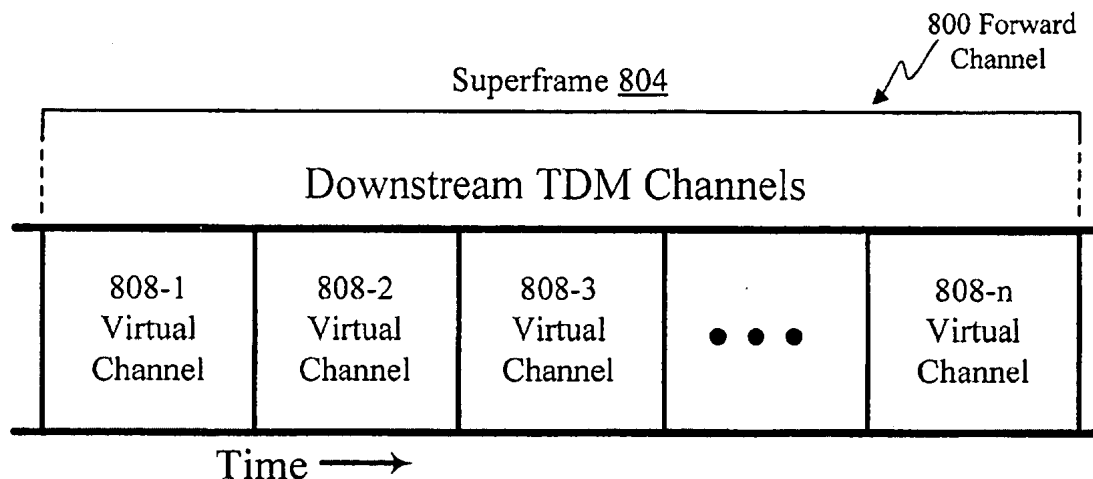
Family 2/44 - FAMPAT - ©Questel

Title

(EP2645597)

Improved spot beam satellite systems

Images



Publication data including kind & date

WO2008108885	A2	2008-09-12	WO2008108885
WO2008108885	A3	2009-03-19	WO2008108885
EP2111697	A2	2009-10-28	EP2111697
CN101573894	A	2009-11-04	CN101573894
CN101582715	A	2009-11-18	CN101582715
CN101588200	A	2009-11-25	CN101588200
WO2010111041	A1	2010-09-30	WO2010111041
EP2412177	A1	2012-02-01	EP2412177
CN102440010	A	2012-05-02	CN102440010
US20120120869	A1	2012-05-17	US20120120869



CN101582715	B	2013-05-15	CN101582715B				
CN101588200	B	2013-08-21	CN101588200B				
EP2645597	A1	2013-10-02	EP2645597				
EP2645596	A1	2013-10-02	EP2645596				
CN101573894	B	2013-12-04	CN101573894B				
US20130336203	A1	2013-12-19	US20130336203				
EP2412177	A4	2015-08-26	EP2412177				
EP2111697	B1	2016-09-21	EP2111697				
EP2645597	B1	2016-11-16	EP2645597				
EP2645596	B1	2016-12-21	EP2645596				
EP2412177	B1	2018-08-22	EP2412177				

Abstract

(EP2645597)

A method is presented for transmitting data in a satellite system having multiple spot beams comprising (1) sending a broadband signal in a forward direction from a gateway terminal to a communications satellite for relay to at least one subscriber terminal, (2) receiving the broadband signal at the communications satellite, wherein the communications satellite comprises a bent pipe repeater having a plurality of satellite-based transmission amplifiers, (3) using one of the plurality of satellite-based transmission amplifiers to amplify the broadband signal and no other broadband signal from the gateway terminal, to produce an amplified broadband signal, (4) sending the amplified broadband signal as one of a plurality of service spot beams to the at least one subscriber terminal, and (5) receiving and retrieving data from the amplified broadband signal at the at least one subscriber terminal.

Inventors

DANKBERG MARK D

MILLER MARK J

HART STEVEN R

JASKA KRISTI ANN

WILSON ROBERT

Latest standardized assignees - inventors removed

VIASAT

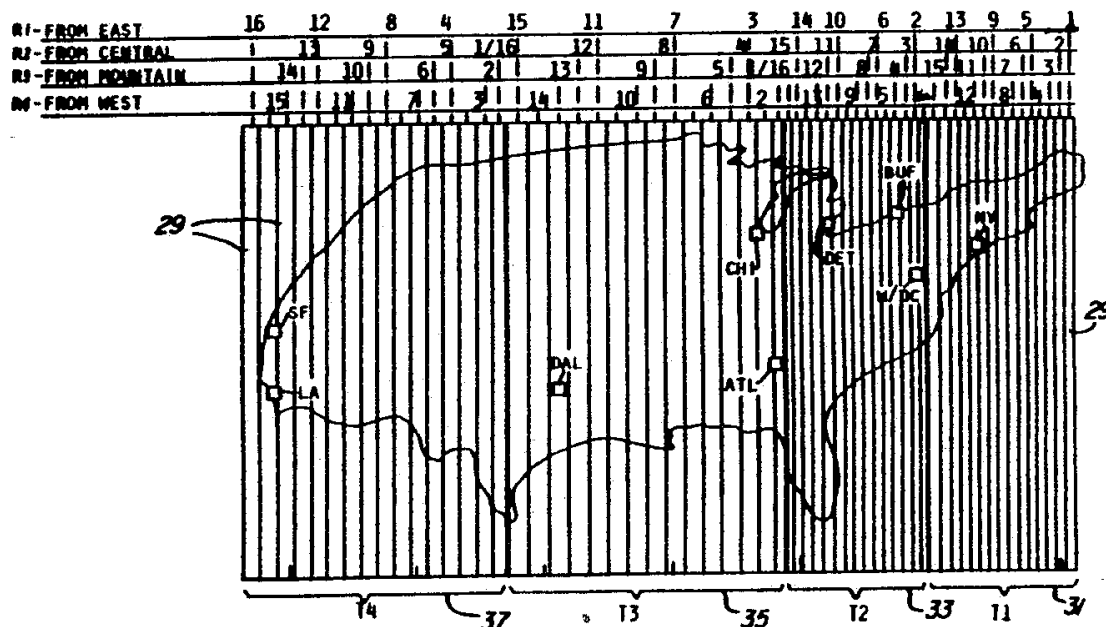
Family 3/44 - FAMPAT - ©Questel

Title

(EP-277173)

Satellite communications system having frequency addressable high gain downlink beams

Images



Publication data including kind & date

WO8801457	A1	1988-02-25	WO8801457
CN87105572	A	1988-05-11	CN87105572
EP0277173	A1	1988-08-10	EP-277173
JPH01500710	A	1989-03-09	JP01500710
US4823341	A	1989-04-18	US4823341
CN1007862	B	1990-05-02	CN1007862B
EP0277173	B1	1992-09-09	EP-277173
DE3781670	D1	1992-10-15	DE3781670
DE3781670	T2	1993-04-01	DE3781670
JPH0552098	B2	1993-08-04	JP93052098
CA1326307	C	1994-01-18	CA1326307



Abstract

(EP-277173)

A satellite communications system employs separate subsystems for providing broadcast and point-to-point two-way communications using the same assigned frequency band. The broadcast and point-to-point subsystems employ an integrated satellite antenna system which uses a common reflector (12). The point-to-point subsystem achieves increased communication capacity through the reuse of the assigned frequency band over multiple, contiguous zones (32, 34, 36, 38) covering the area of the earth to be serviced. Small aperture terminals in the zones are serviced by a plurality of high gain downlink fan beams (29) steered in the east-west direction by frequency address. A special beam-forming network (98) provides in conjunction with an array antenna (20) the multiple zone frequency address function. The satellite (10) employs a filter interconnection matrix (90) for connecting earth terminals in different zones in a manner which permits multiple reuse of the entire band of assigned frequencies. A single pool of solid state transmitters allows rain disadvantaged users to be assigned higher than normal power at minimum cost. The intermodulation products of the transmitters are geographically dispersed.

Inventors

ROSEN, HAROLD, A.

Latest standardized assignees - inventors removed

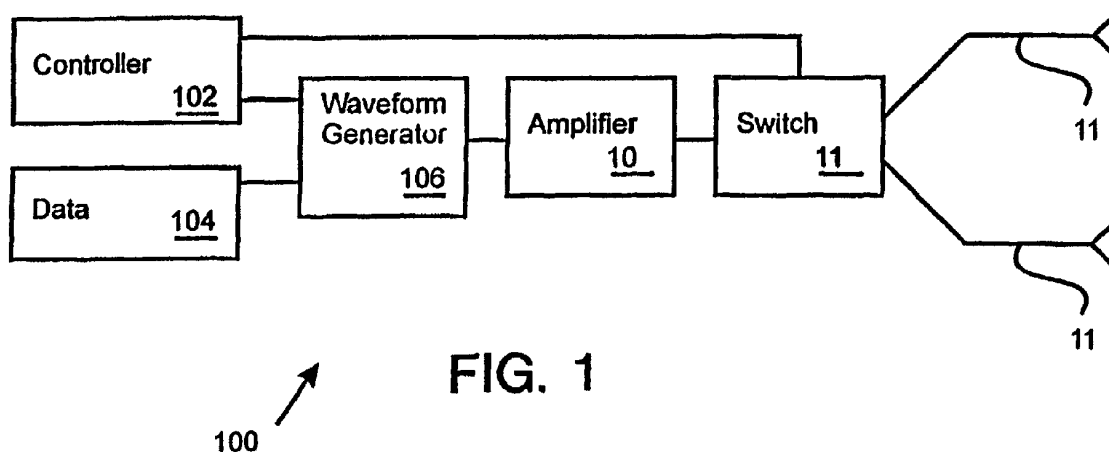
HUGHES AIRCRAFT

HUGHES ELECTRONICS

Title

(EP1168672)

Multiple satellite beam laydown with switchable bands for hopped satellite downlink

Images**Publication data including kind & date**

CA2350904	A1	2001-12-21	CA2350904
EP1168672	A2	2002-01-02	EP1168672
JP2002044000	A	2002-02-08	JP2002044000
EP1168672	A3	2004-01-02	EP1168672

**Abstract**

(EP1168672)

A multiple satellite beam laydown (600) includes an assignment of first-satellite spot beams to cells (502, 504, 506) covering a service region. Each first-satellite spot beam is assigned a color selected from a predetermined set of beam colors 400. The beam laydown (600) further includes a contemporaneous assignment of second-satellite spot beams to the cells (502, 504, 506). Each second-satellite spot beam has a color selected from the same set of beam colors (400). The second assignment is coordinated with the first assignment to maintain at least one type of interference (e.g., co-channel, adjacent channel, or cross polarization) below a predetermined threshold. <IMAGE>

Inventors

BERGER HARVEY L
 LINSKY STUART T
 NIVENS DENNIS A
 HARMON GARRICK J
 TRAMM FRED C
 WHITE ROBERT W

Latest standardized assignees - inventors removed

NORTHROP GRUMMAN

Family 5/44 - FAMPAT - ©Questel

Title

(EP-311919)

Satellite communications system employing frequency reuse.

Images

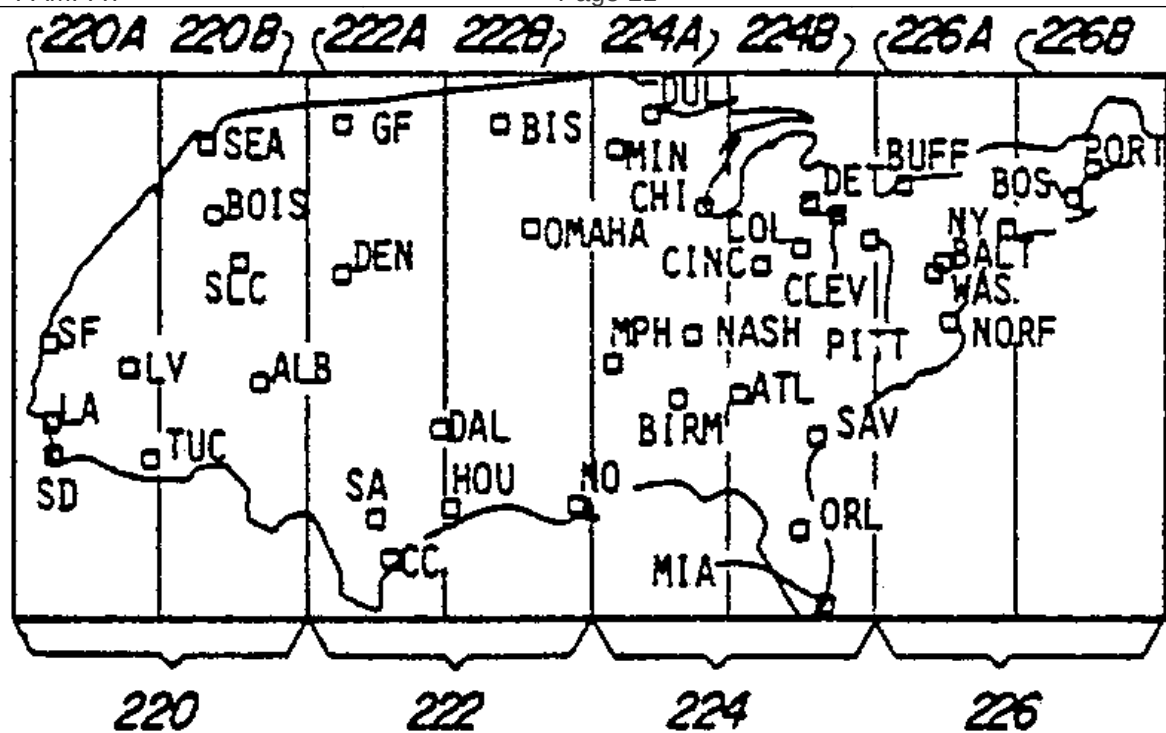
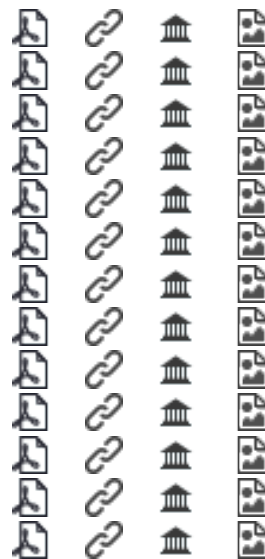


Fig-27

Publication data including kind & date

EP0311919	A2	1989-04-19	EP-311919
AU2217688	A	1989-05-11	AU8822176
EP0311919	A3	1989-08-30	EP-311919
JPH021629	A	1990-01-05	JP02001629
AU605908	B2	1991-01-24	AU-605908
AU6487990	A	1991-01-31	AU9064879
CA1288480	C	1991-09-03	CA1288480
AU616363	B2	1991-10-24	AU-616363
EP0311919	B1	1994-06-22	EP-311919
DE3850337	D1	1994-07-28	DE3850337
DE3850337	T2	1994-12-15	DE3850337
JPH0783308	B2	1995-09-06	JP95083308
JP2055498	C	1996-05-23	JP2055498



Abstract

(EP-311919)

A satellite communications system employs separate subsystems for broadcast and point-to-point two-way communications using the same assigned frequency band and employs an antenna system which uses a common reflector (12). The point-to-point subsystem achieves increased communication capacity through the reuse of the assigned frequency band over multiple, contiguous zones (32, 34, 36, 38) covering the area of the earth to be serviced. Small aperture terminals in the zones are serviced by a plurality of high-gain downlink fan beams (29) steered in the east-west direction by frequency address. A special beam-forming network (98) provides in conjunction with an array antenna (20) the multiple zone frequency address function. The satellite (10) employs a filter interconnection matrix (90) for connecting earth terminals in different zones to permit multiple reuse of the entire band of assigned frequencies. A single pool of solid-state transmitters allows rain-disadvantaged users to be assigned higher than normal power at minimum cost and geographically disperses the transmitter intermodulation products. In an alternate embodiment, the satellite (200) employs direct radiating array antennas (202, 204) for reception and transmission. The system (200) utilizes hybrid-coupled dual amplifiers (251) to reduce amplifier production costs. In another embodiment, both point-to-point and broadcast services are available on a

single polarization by allocating one-half of the frequency spectrum to each service and by using separate direct radiating arrays from horizontal and vertical polarization for both reception (235, 236) and transmission (237, 238). The frequency spectrum is reused in each of the contiguous receive zones (220, 222, 224, 226) and the transmit zones (228, 230, 232, 234) because sufficient spatial isolation is achieved by subdividing the receive zones in two halves (220a, 220b, 222a, 222b, 224a, 224b, 226a, 226b), and by using one-half of the frequency spectrum in each subdivided zone.

Inventors

ROSEN HAROLD A

Latest standardized assignees - inventors removed

HUGHES AIRCRAFT

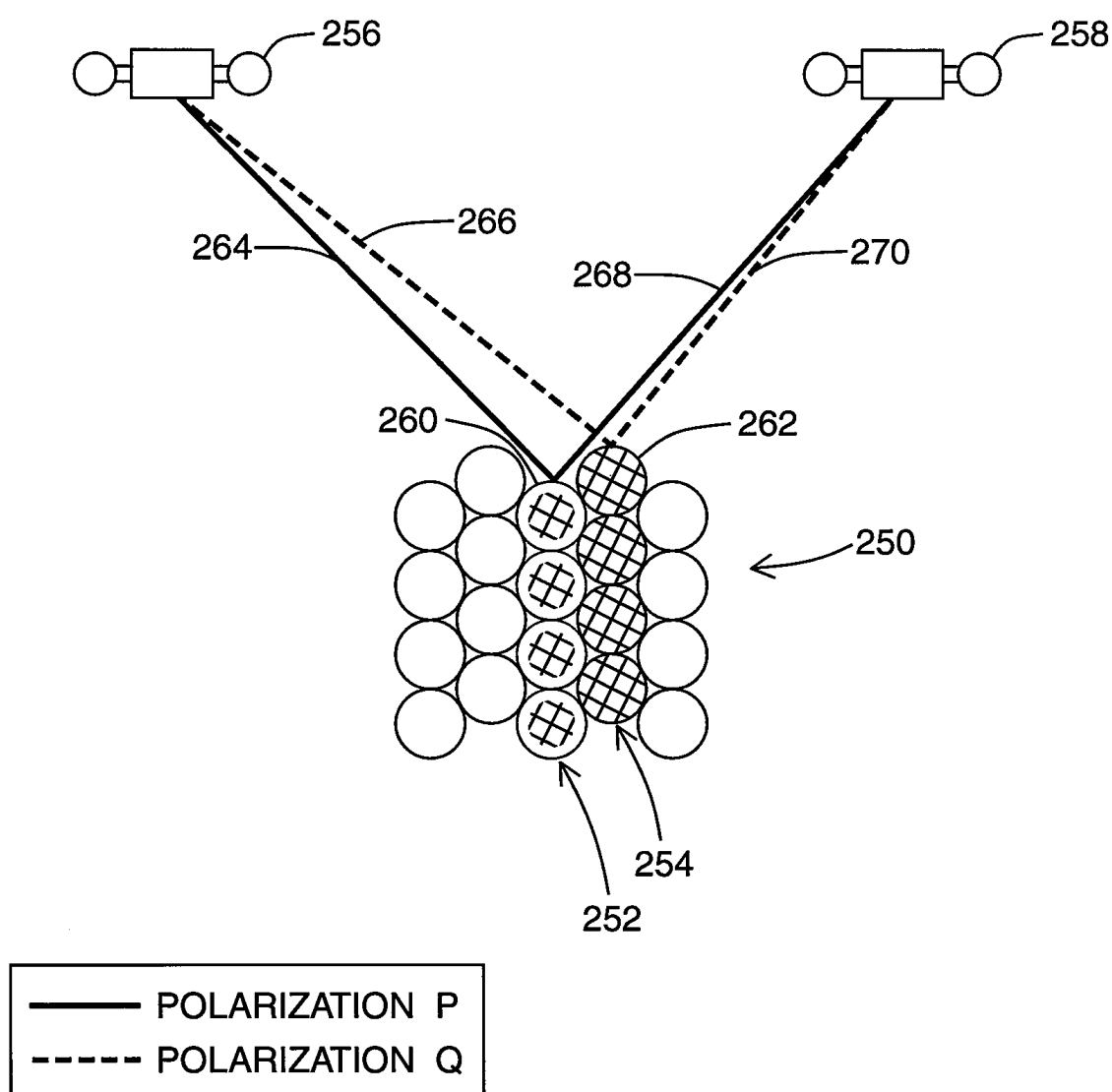
Family 6/44 - FAMPAT - ©Questel

Title

(EP1973240)

Multi-beam communication system and method

Images



Publication data including kind & date

CA2626187	A1	2008-09-21	CA2626187
EP1973240	A2	2008-09-24	EP1973240
US20080233865	A1	2008-09-25	US20080233865
EP1973240	A3	2008-10-15	EP1973240
US7706787	B2	2010-04-27	US7706787



[EP1973240](#)

B1 2010-07-28 EP1973240

[DE602008001909](#)

D1 2010-09-09 DE602008001909

[CA2626187](#)

C 2014-05-27 CA2626187

Abstract

(EP1973240)

A method of flexibly allocating capacity in a satellite coverage area, comprising establishing a frequency reuse pattern of at least two interleaved sets of cells, assigning a polarization to each set of cells, such that adjacent sets of cells alternate in orthogonal polarization, flexibly assigning satellite transmit power to at least one cell, flexibly assigning frequency and bandwidth to at least one cell, and moving frequencies, bandwidths, and satellite transmit power among the cells within each set, independently of the other sets, ensuring that at all times no two adjacent cells within a given set share a common frequency.

Inventors

MALARKY ALASTAIR

JONES TREVOR

Latest standardized assignees - inventors removed

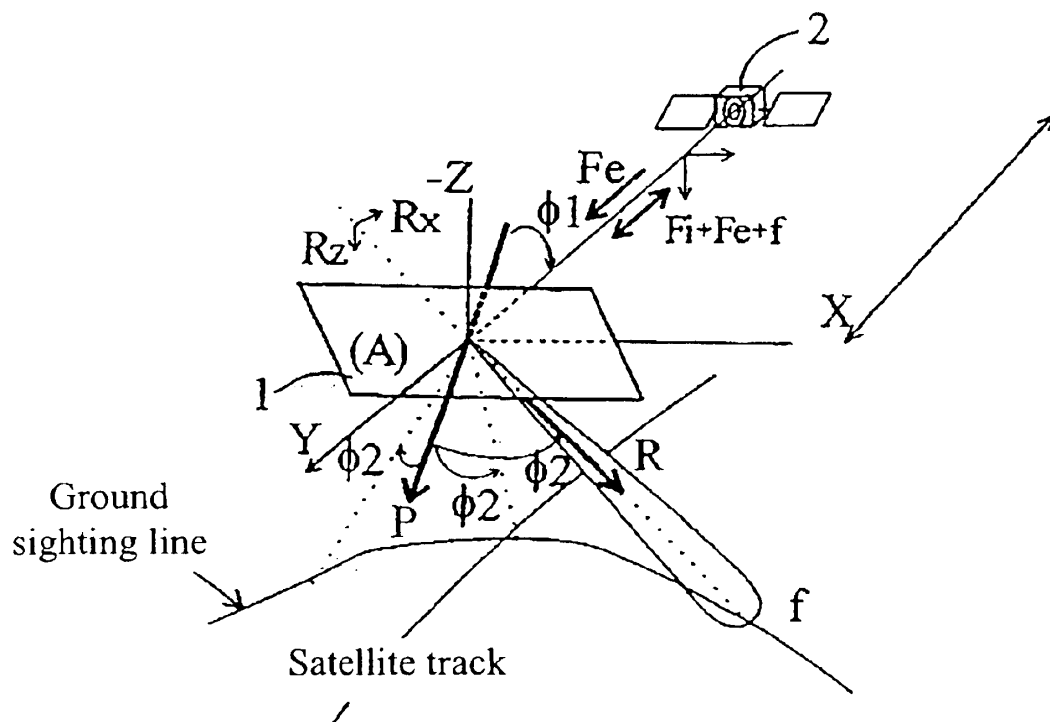
COM DEV INTERNATIONAL

Family 7/44 - FAMPAT - ©Questel

Title

(EP1198864)

System comprising a satellite with radiofrequency antenna

Images**Publication data including kind & date**[FR2795576](#)

A1 2000-12-29 FR2795576

[FR2795575](#)

A1 2000-12-29 FR2795575

[WO200101515](#)

A1 2001-01-04 WO200101515

[CA2377590](#)

A1 2001-01-04 CA2377590

[EP1198864](#)

A1 2002-04-24 EP1198864

[JP2003503929](#)

A 2003-01-28 JP2003503929



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DE60004858	T2	2004-06-09	DE60004858
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FR2795576	B1	2007-01-05	FR2795576
FR2795575	B1	2007-01-19	FR2795575
CA2377590	C	2008-02-05	CA2377590
JP4873807	B2	2012-02-08	JP4873807



Abstract

(EP1198864)

The invention concerns a system comprising a radiofrequency antenna stationed in an orbit around the earth, and illuminating means for transmitting and/or receiving likewise orbiting round the earth located on at least a satellite separate from the one bearing the antenna, the antenna being located in the illuminating field of said means. The invention is characterised in that the antenna is a radiofrequency antenna formed by a mesh generation of tiles and phase-shifting means connected thereto, the signals received by the tiles passing through the phase-shifting means before being assembled on said tiles, said phase-shifting and/or delaying means being capable of diverting the radiofrequency signals corresponding to one or several channels transmitted by the illuminating means to send them to the earth along one or several beams and/or of diverting the radiofrequency signals corresponding to one or several beams transmitted from the earth to send them to the illuminating means along one or several channels.

Inventors

AGUTTES JEAN-PAUL

Latest standardized assignees - inventors removed

CNES - CENTRE NATIONAL D ETUDES SPATIALES

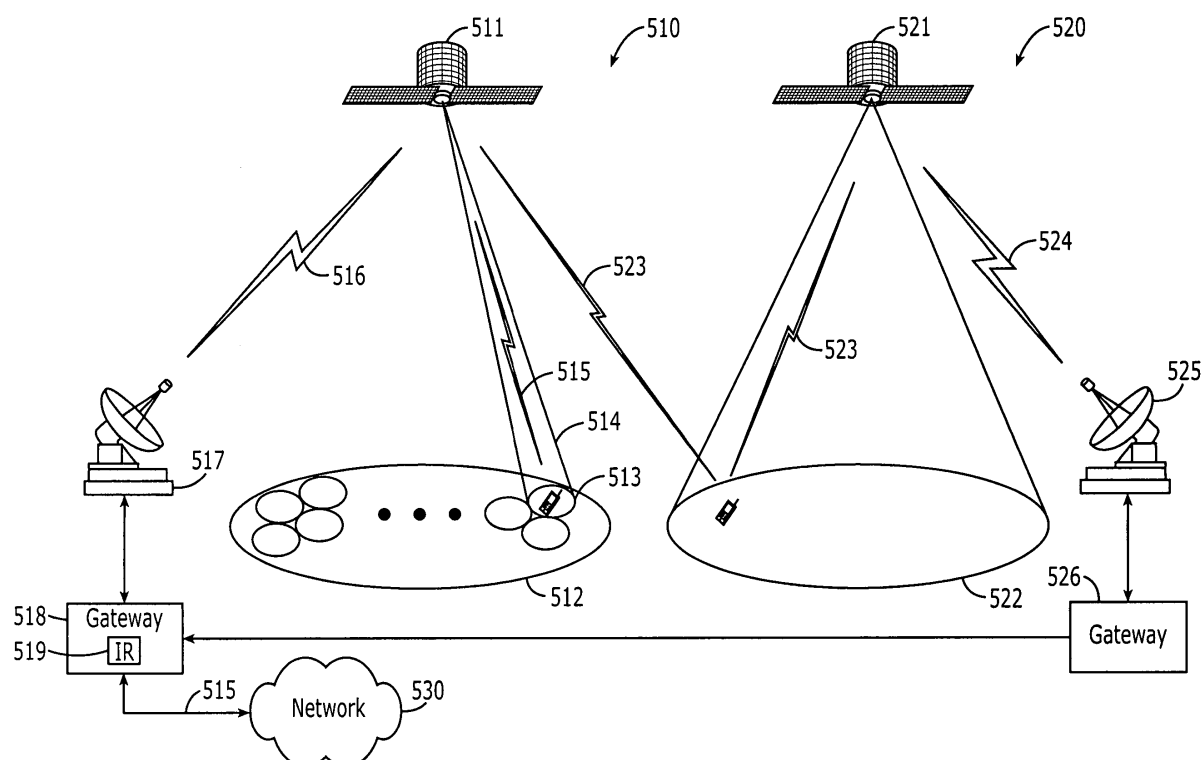
Family 8/44 - FAMPAT - ©Questel

Title

(EP1766810)

Co-channel interference reducing arrangement in a satellite communications systems, and method

Images



Publication data including kind & date

US20050037749	A1	2005-02-17	US20050037749				
WO2005034361	A2	2005-04-14	WO200534361				
CA2534079	A1	2005-04-14	CA2534079				
AU2004306356	A1	2005-04-14	AU2004306356				
US20050136836	A1	2005-06-23	US20050136836				
WO2005034361	A3	2005-08-04	WO200534361				
WO2006019667	A1	2006-02-23	WO200619667				
EP1649707	A2	2006-04-26	EP1649707				
IL173311	A	2006-06-11	IL-173311				
BRPI0413040	A	2006-10-03	BR200413040				
BRPI0413040	A1	2006-10-03	BRPI0413040				
CN1860804	A	2006-11-08	CN1860804				
KR20060129154	A	2006-12-15	KR20060129154				
JP2007501546	A	2007-01-25	JP2007501546				
EP1766810	A1	2007-03-28	EP1766810				
CN1989707	A	2007-06-27	CN1989707				
IN0425/DELNP/2006	A	2007-08-24	IN2006DN00425				
IN6014/DELNP/2006	A	2007-08-24	IN2006DN06014				
EP1766810	B1	2007-10-31	EP1766810				
AT377299	T	2007-11-15	ATE377299				
DK1766810	T3	2007-11-26	DK1766810T				
DE602005003136	D1	2007-12-13	DE602005003136				
BRPI0511619	A	2008-01-02	BR200511619				
BRPI0511619	A1	2008-01-02	BRPI0511619				
ES2292142	T3	2008-03-01	ES2292142				
US7340213	B2	2008-03-04	US7340213				
AU2004306356	B2	2008-05-29	AU2004306356				
DE602005003136	T2	2008-08-14	DE602005003136				
EP1649707	A4	2009-12-16	EP1649707				
CN1860804	B	2010-12-08	CN1860804B				
IL173311	B	2010-12-30	IL-173311				
JP4695593	B2	2011-06-08	JP4695593				
KR101098007	B1	2011-12-23	KR101098007				
EP1649707	B1	2012-01-18	EP1649707				
AT542311	T	2012-02-15	ATE542311				
CN1989707	B	2012-11-28	CN1989707B				
CA2534079	C	2013-04-16	CA2534079				
US8670705	B2	2014-03-11	US8670705				
IN269304	B	2015-10-16	IN-269304				
BRPI0413040	A2	2017-06-27	BRPI0413040				
BRPI0413040	B1	2018-10-02	BRPI0413040				
BRPI0511619	A2	2018-11-06	BRPI0511619				

Abstract

(EP1766810)

First radio signals are received by a first satellite, the received first radio signals including a desired satellite uplink signal transmitted from a first source using a frequency assigned to the first source and an interfering signal transmitted from a second source using the frequency assigned to the first source. The first radio signals are combined based on a first

performance criterion to generate a first output signal. Second radio signals are received by a second satellite, the received second radio signals including a measure of the desired signal. The second radio signals are combined based on a second performance criterion to produce a second output signal. The first and second output signals are combined to generate an estimate of the desired satellite uplink signal.

Inventors

KARABINIS PETER D

DUTTA SANTANU

CHURAN GARY G

ZHENG DUNMIN

Latest standardized assignees - inventors removed

ATC TECHNOLOGY

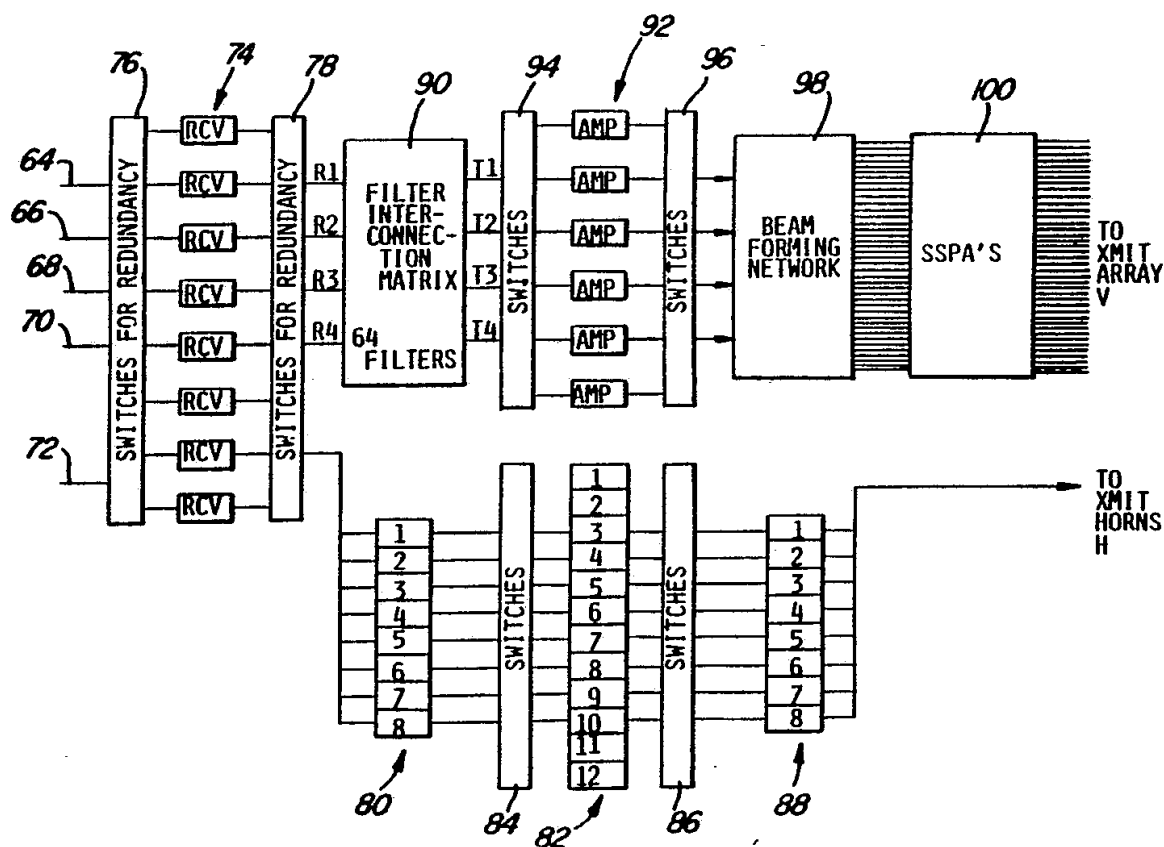
Family 9/44 - FAMPAT - ©Questel

Title

(EP-277188)

Satellite communications system having multiple downlink beams powered by pooled transmitters

Images



Publication data including kind & date

WO8801454	A1	1988-02-25	WO8801454
CN87105576	A	1988-05-11	CN87105576
EP0277188	A1	1988-08-10	EP-277188
JPH01500953	A	1989-03-30	JP01500953
US4831619	A	1989-05-16	US4831619
CN1008678	B	1990-07-04	CN1008678B
CA1282878	C	1991-04-09	CA1282878
EP0277188	B1	1992-08-26	EP-277188
DE3781395	D1	1992-10-01	DE3781395



DE3781395

T2 1993-04-01 DE3781395

JPH0552099

B2 1993-08-04 JP93052099

**Abstract**

(EP-277188)

A satellite communications system employs separate subsystems for providing broadcast and point-to-point two-way communications using the same assigned frequency band. The broadcast and point-to-point subsystems employ an integrated satellite antenna system which uses a common reflector (12). The point-to-point subsystem achieves increased communication capacity through the reuse of the assigned frequency band over multiple, contiguous zones (32, 34, 36, 38) covering the area of the earth to be serviced. Small aperture terminals in the zones are serviced by a plurality of high gain downlink fan beams (29) steered in the east-west direction by frequency address. A special beam-forming network (98) provides in conjunction with an array antenna (20) the multiple zone frequency address function. The satellite (10) employs a filter interconnection matrix (90) for connecting earth terminals in different zones in a manner which permits multiple reuse of the entire band of assigned frequencies. A single pool of solid state transmitters allows rain disadvantaged users to be assigned higher than normal power at minimum cost. The intermodulation products of the transmitters are geographically dispersed.

Inventors

ROSEN, HAROLD, A.

Latest standardized assignees - inventors removed

HUGHES AIRCRAFT

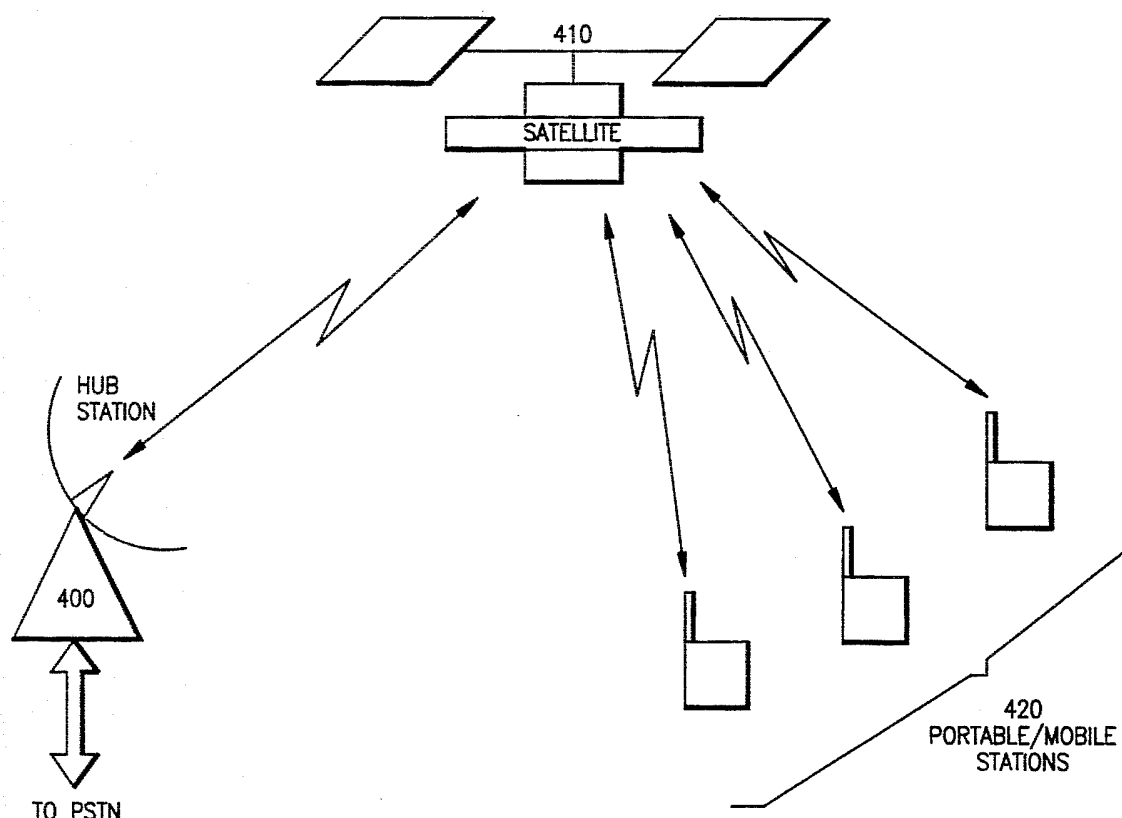
HUGHES ELECTRONICS

Family 10/44 - FAMPAT - ©Questel

Title

(EP1659720)

A cellular/satellite communications system with improved frequency re-use

Images**Publication data including kind & date**

WO9519078

A1 1995-07-13 WO9519078



CA2157182	A1	1995-07-13	CA2157182				
AU1524595	A	1995-08-01	AU9515245				
FI954210	A0	1995-09-08	FI9504210				
FI954210	A	1995-10-19	FI9504210				
EP0688482	A1	1995-12-27	EP-688482				
BR9505640	A	1996-01-09	BR9505640				
BRPI9505640	A1	1996-01-09	BRPI9505640				
CN1124075	A	1996-06-05	CN1124075				
US5555257	A	1996-09-10	US5555257				
JPH08510609	A	1996-11-05	JP08510609				
US5594941	A	1997-01-14	US5594941				
US5619503	A	1997-04-08	US5619503				
US5631898	A	1997-05-20	US5631898				
US5848060	A	1998-12-08	US5848060				
CN1077367	C	2002-01-02	CN1077367C				
BRPI9505640	B1	2002-04-02	BR9505640				
CN1345133	A	2002-04-17	CN1345133				
CN1345130	A	2002-04-17	CN1345130				
CN1345129	A	2002-04-17	CN1345129				
EP0688482	A4	2002-05-02	EP-688482				
CN1349315	A	2002-05-15	CN1349315				
CN1349314	A	2002-05-15	CN1349314				
CN1349310	A	2002-05-15	CN1349310				
EP0688482	B1	2006-05-03	EP-688482				
EP1659720	A2	2006-05-24	EP1659720				
EP1659720	A3	2006-05-31	EP1659720				
DE69534967	D1	2006-06-08	DE69534967				
DE69534967	T2	2006-12-28	DE69534967				

Abstract

(EP1659720)

Radiocommunication systems and methods for minimizing co-channel interference are disclosed. The systems and methods are applicable to, for example, landmobile communications (420), satellite communication systems (410) and hybrids (400) thereof. Signal processing using matrix models of received and transmitted signals provides for minimized interference.

Inventors

DENT PAUL

Latest standardized assignees - inventors removed

ERICSSON

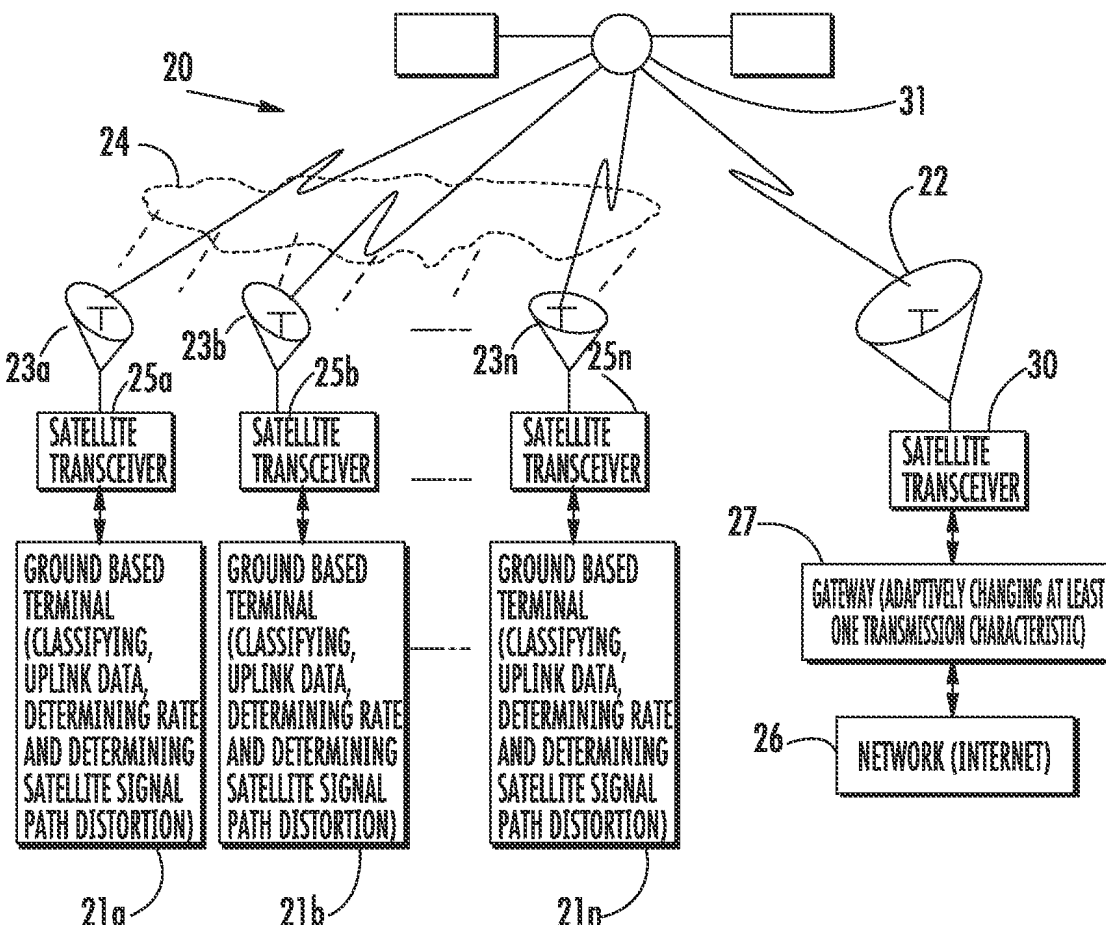
Family 11/44 - FAMPAT - ©Questel

Title

(EP2053760)

Satellite communication bandwidth cross layer allocation system and related methods

Images



Publication data including kind & date

CA2641865	A1	2009-04-26	CA2641865
EP2053760	A1	2009-04-29	EP2053760
US20090109895	A1	2009-04-30	US20090109895
US7936707	B2	2011-05-03	US7936707
EP2053760	B1	2012-04-25	EP2053760
CA2641865	C	2012-09-25	CA2641865



Abstract

(EP2053760)

A satellite communications system may include a satellite, a first ground based satellite transceiver, at least one second ground based satellite transceiver, and at least one ground based terminal coupled to the at least one second ground based satellite transceiver and classifying uplink data into different uplink data classifications, determining an uplink data rate, and determining a satellite signal path degradation. The satellite communications system may also include a gateway coupled to the first ground based satellite transceiver and communicating with the at least one ground based terminal via the satellite. The gateway may use cross layer protocol interfacing with the at least one ground based terminal for adaptively changing at least one transmission characteristic based upon the satellite signal path degradation. The satellite may allocate bandwidth based upon the uplink data classification and the uplink data rate.

Inventors

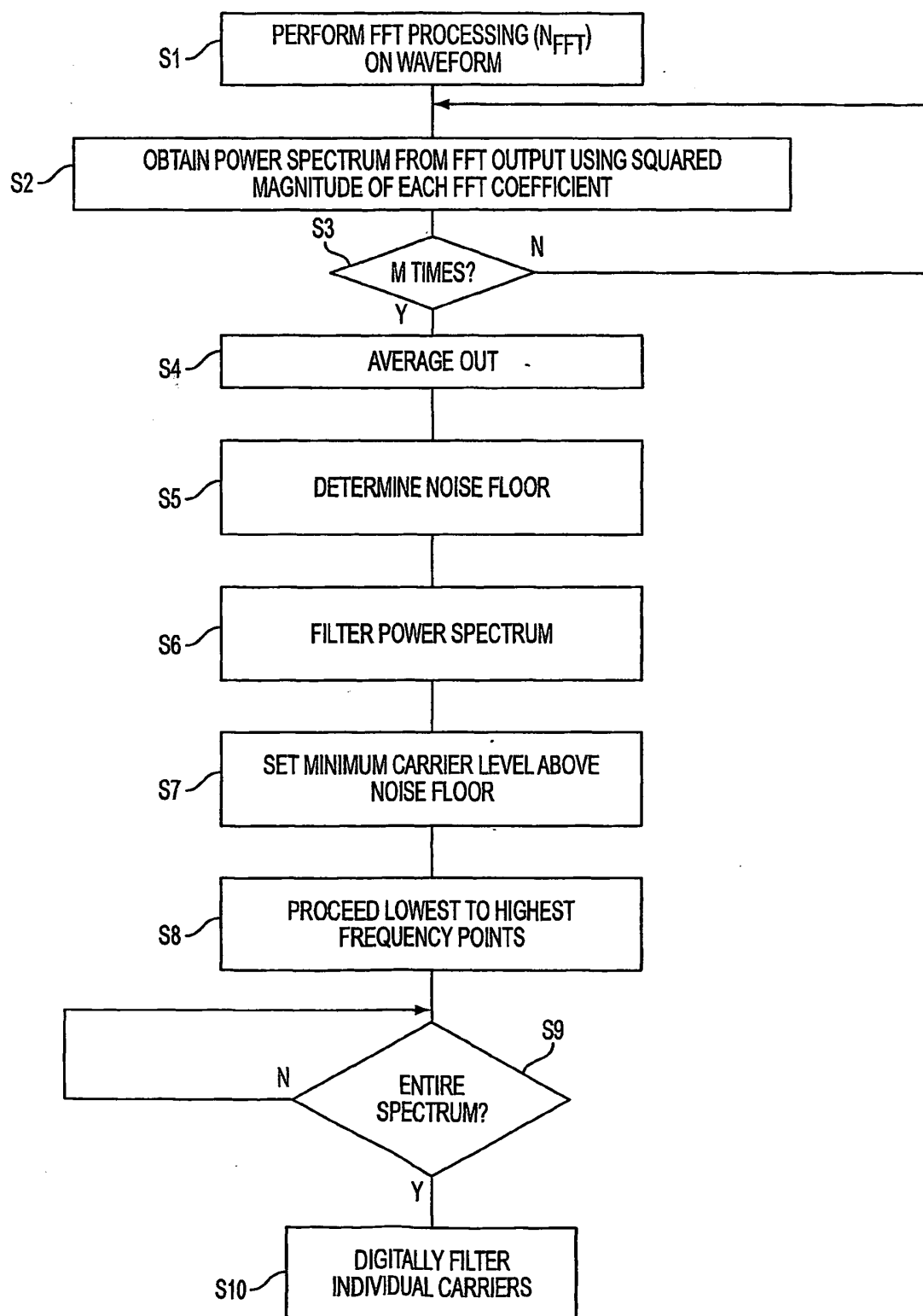
KOTA SASTRI L
BRADLEY DAVID B

Latest standardized assignees - inventors removed

HARRIS

(WO200291639)

Method and apparatus for parameter estimation, modulation classification and interference characterization in satellite communication systems

Images**Publication data including kind & date**

WO02091639	A1	2002-11-14	WO200291639
WO02091599	A2	2002-11-14	WO200291599
AU2002305411	A1	2002-11-18	AU2002305411
WO02091599	A3	2003-05-15	WO200291599



[US20050063487](#)

A1 2005-03-24 US20050063487

[US20050085186](#)

A1 2005-04-21 US20050085186

**Abstract**

(WO200291639)

A digital signal processing (DSP)-based approach to parameter estimation modulation identification and interference characterization in connection with a satellite Communication Monitoring System (CSM).The techniques described here also allow automatic generation of satellite frequency plans (S74) without any a priori knowledge of such plans.Individual processes for carrier isolation (S71), segmentation (S72), frequency estimation (S73), symbol rate estimation, bit error rate estimation, modulation identification and interference characterization are disclosed may be combined in a totally automated process.

Inventors

SAYEGH SOHEIL

Latest standardized assignees - inventors removed

COMSAT WASHINGTON DC

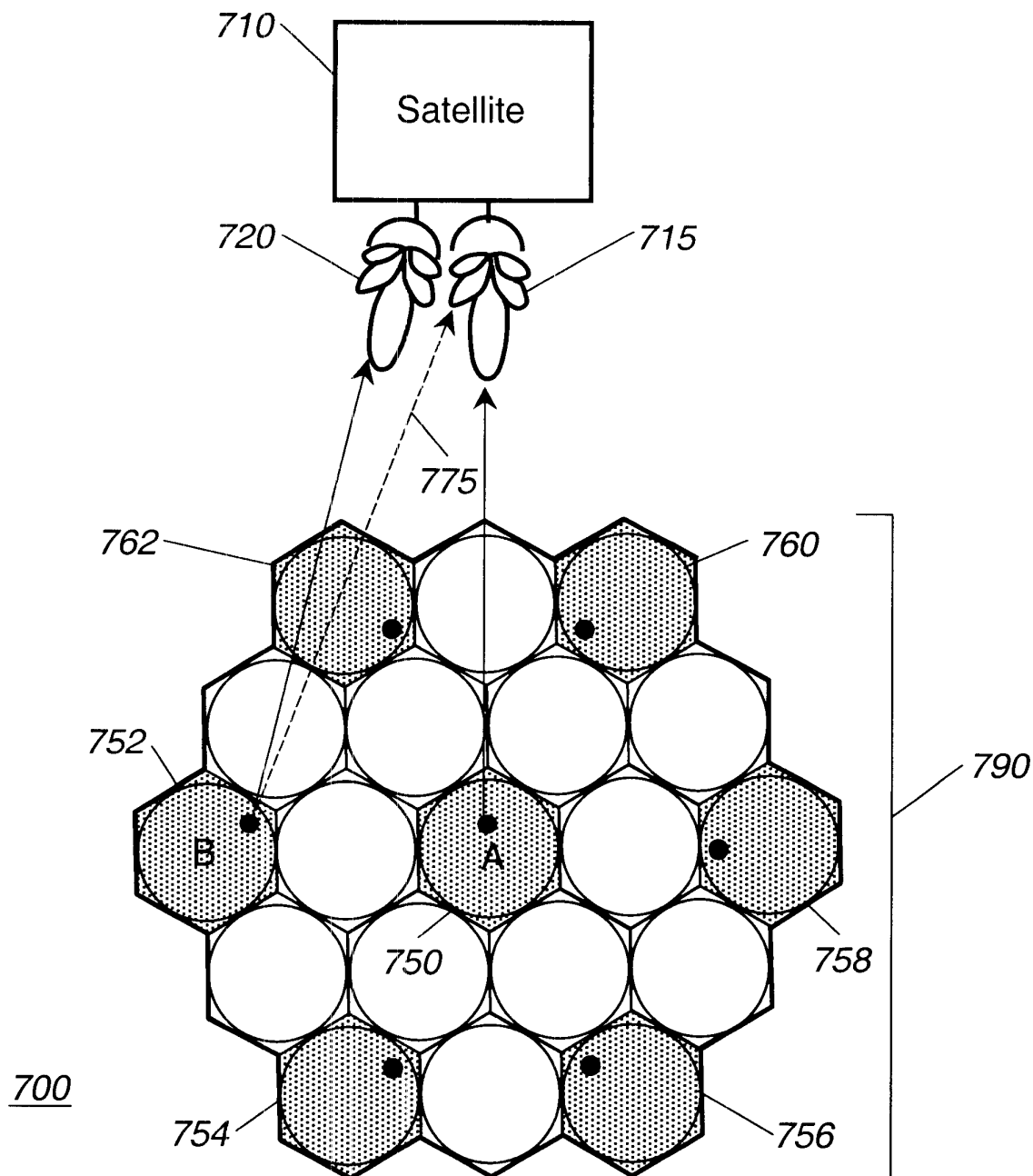
Family 13/44 - FAMPAT - ©Questel

Title

(EP1059738)

Mitigation of co-channel interference in synchronization bursts in a multi-beam communication system

Images



Publication data including kind & date

CA2307995	A1	2000-12-11	CA2307995
EP1059738	A2	2000-12-13	EP1059738
JP2001024571	A	2001-01-26	JP2001024571
US6452962	B1	2002-09-17	US6452962
CA2307995	C	2003-02-25	CA2307995
EP1059738	A3	2003-05-21	EP1059738
US6845085	B1	2005-01-18	US6845085
EP1059738	B1	2006-05-24	EP1059738
AT327602	T	2006-06-15	ATE327602
DE60028130	D1	2006-06-29	DE60028130
DE60028130	T2	2006-10-26	DE60028130



Abstract

(EP1059738)

In a cellular satellite system such as Astrolink, where same frequency, same polarization (same "color") signals are used in multiple ground cells, there exists the possibility of interference and false reception of uplink Synchronization Bursts (SB) in systems employing TDMA access of the frequency in question. In such systems, a SB transmitted from one terminal may be received in more than one satellite beam. The reception of the signal from a terminal in an undesired beam (330) is erroneous and may adversely impact the time synchronization (360) of the desired terminal. For example, a system may employ Maximal Length (ML) Pseudo-Noise (PN) sequences (410) for its SBs wherein every beam may use the same sequence. To minimize false reception, the ML PN sequences (410) of each SB may be cyclicly shifted a different amount for each beam to generate sequences (410, 420) having low crosscorrelation with each other. By choosing ML PN codes having low crosscorrelation (410, 420) for the different beams, the interference from undesired beams may be minimized (530).

Inventors

LINSKY STUART T

CASO GREGORY S

WRIGHT DAVID A

Latest standardized assignees - inventors removed

NORTHROP GRUMMAN

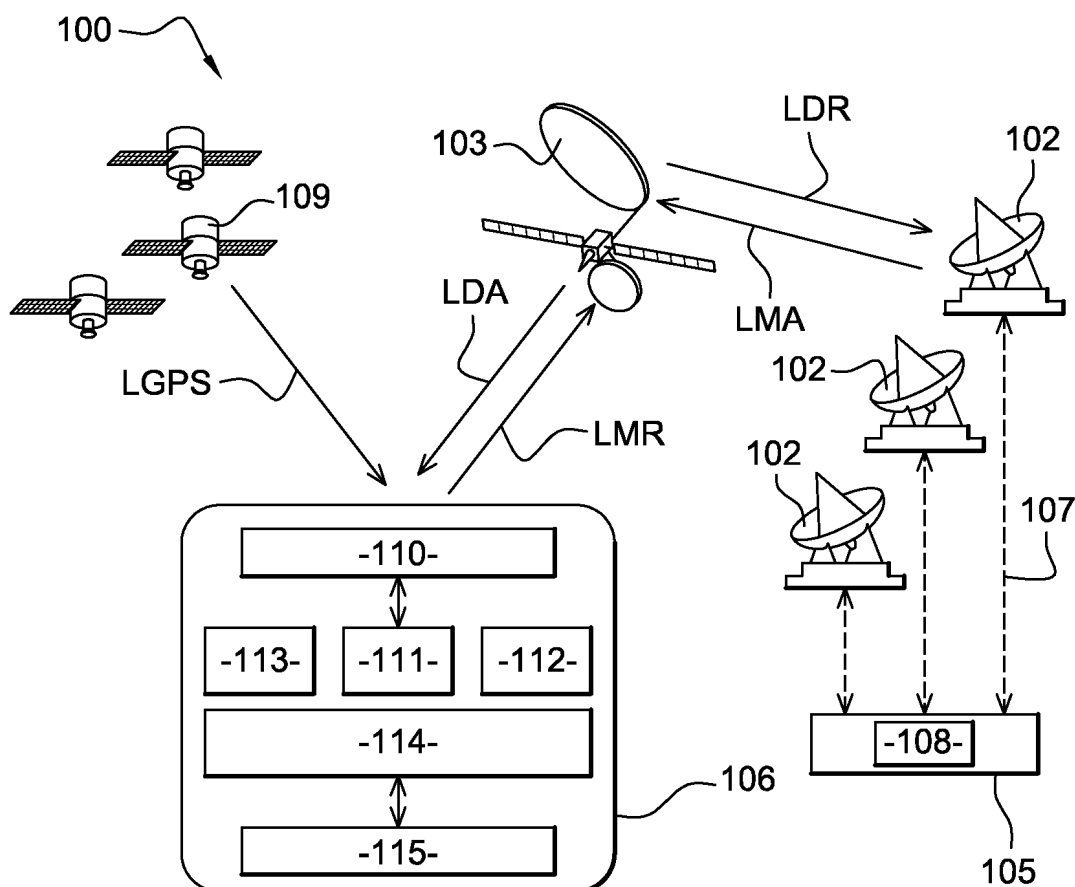
NORTHROP GRUMMAN SYSTEMS

Family 14/44 - FAMPAT - ©Questel

Title

(EP2396910)

Telecommunication network with a multispot beam communication satellite and an operating center determining transmission parameters according to the position of ground terminals.

Images

Publication data including kind & date

FR2942090	A1	2010-08-13	FR2942090				
WO2010092011	A1	2010-08-19	WO201092011				
FR2942090	B1	2011-03-04	FR2942090				
EP2396910	A1	2011-12-21	EP2396910				
US20120034915	A1	2012-02-09	US20120034915				
RU2011137000	A	2013-03-20	RU2011137000				
EP2396910	B1	2013-05-29	EP2396910				
DK2396910	T3	2013-07-22	DK2396910T				
PT2396910	E	2013-07-29	PT2396910				
ES2422172	T3	2013-09-09	ES2422172				
RU2539325	C2	2015-01-20	RU2539325				
US9118383	B2	2015-08-25	US9118383				

Abstract

(EP2396910)

The present invention relates to a network (100) for establishing RF links between at least one main ground station (102) connected to a NOC center (105) and ground terminals (106) via a multispot satellite (103). In addition, the network (100) is composed of a coverage area composed of a plurality of cells in which terminals (106) are located, each cell being associated with at least one link spot beam with the satellite to which a frequency band is allocated. The NOC center (105) comprises means (108) for determining the transmission parameters characteristic of the position of terminals in the coverage area, known as optimization means, the parameters covering the entire coverage area and means (107, LMA, LDA) for transmitting all parameters to each of said terminals (106). Each of the terminals (106) comprises means (112) for storing at least part of all the parameters, means (113) for determining its geographic position in the coverage area and means (114) for determining, from the parameters and its geographic position, the transmission parameters to be utilized.

Inventors

ARCIDIACONO ANTONIO

FINOCCHIARO DANIELE VITO

Latest standardized assignees - inventors removed

EUTELSAT

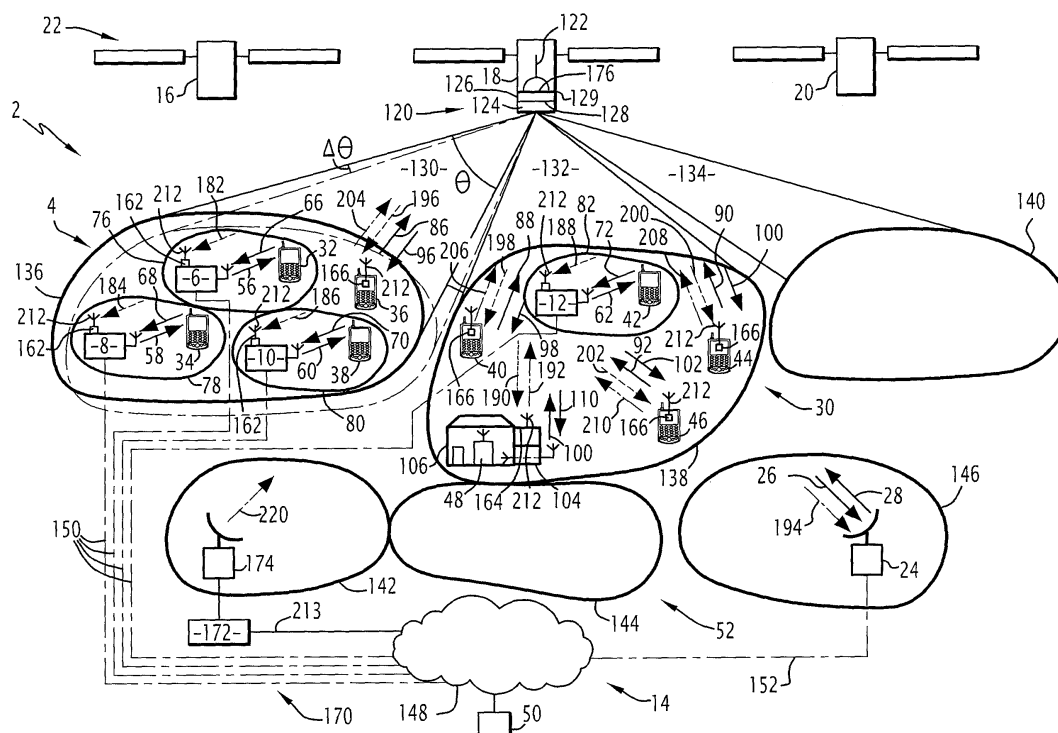
Family 15/44 - FAMPAT - ©Questel

Title

(EP2567472)

Terrestrial-satellite hybrid system for high capacity cellular wireless communications

Images



Publication data including kind & date

WO2011138563	A1	2011-11-10	WO2011138563
FR2959893	A1	2011-11-11	FR2959893
FR2959893	B1	2012-08-03	FR2959893
EP2567472	A1	2013-03-13	EP2567472
CN103026640	A	2013-04-03	CN103026640
JP2013526227	A	2013-06-20	JP2013526227
US20130210424	A1	2013-08-15	US20130210424
KR20130113927	A	2013-10-16	KR20130113927
US8787903	B2	2014-07-22	US8787903
JP5714697	B2	2015-05-07	JP5714697
CN103026640	B	2016-11-30	CN103026640B
KR101822369	B1	2018-03-14	KR101822369
EP2567472	B1	2018-08-29	EP2567472



Abstract

(EP2567472)

The invention relates to a hybrid cellular radio communication system which includes base stations (6, 8, 10, 12) defining terrestrial cells covered by umbrella satellite cells (136, 138, 140; 436, 438, 440). The base stations (6, 8, 10, 12) are distributed in a manner that can be discerned by the satellite cell (136, 138, 140; 436, 438, 440) according to a distribution function that does not vary over time, and the system includes a means for maintaining (52; 452), permanently and in a single flow direction, congruent coverage of each satellite cell (136, 138, 140; 436, 438, 440) in relation to the coverage of the terrestrial cells (76, 78, 80, 82) associated with the base stations (6, 8, 10, 12) contained in said satellite cell, the coverage of a satellite cell (136; 436) being congruent with a predetermined terrestrial coverage set when said predetermined coverage set is included in the satellite coverage.

Inventors

BOUSTIE CHRISTELLE

SCOT GAËL

Latest standardized assignees - inventors removed

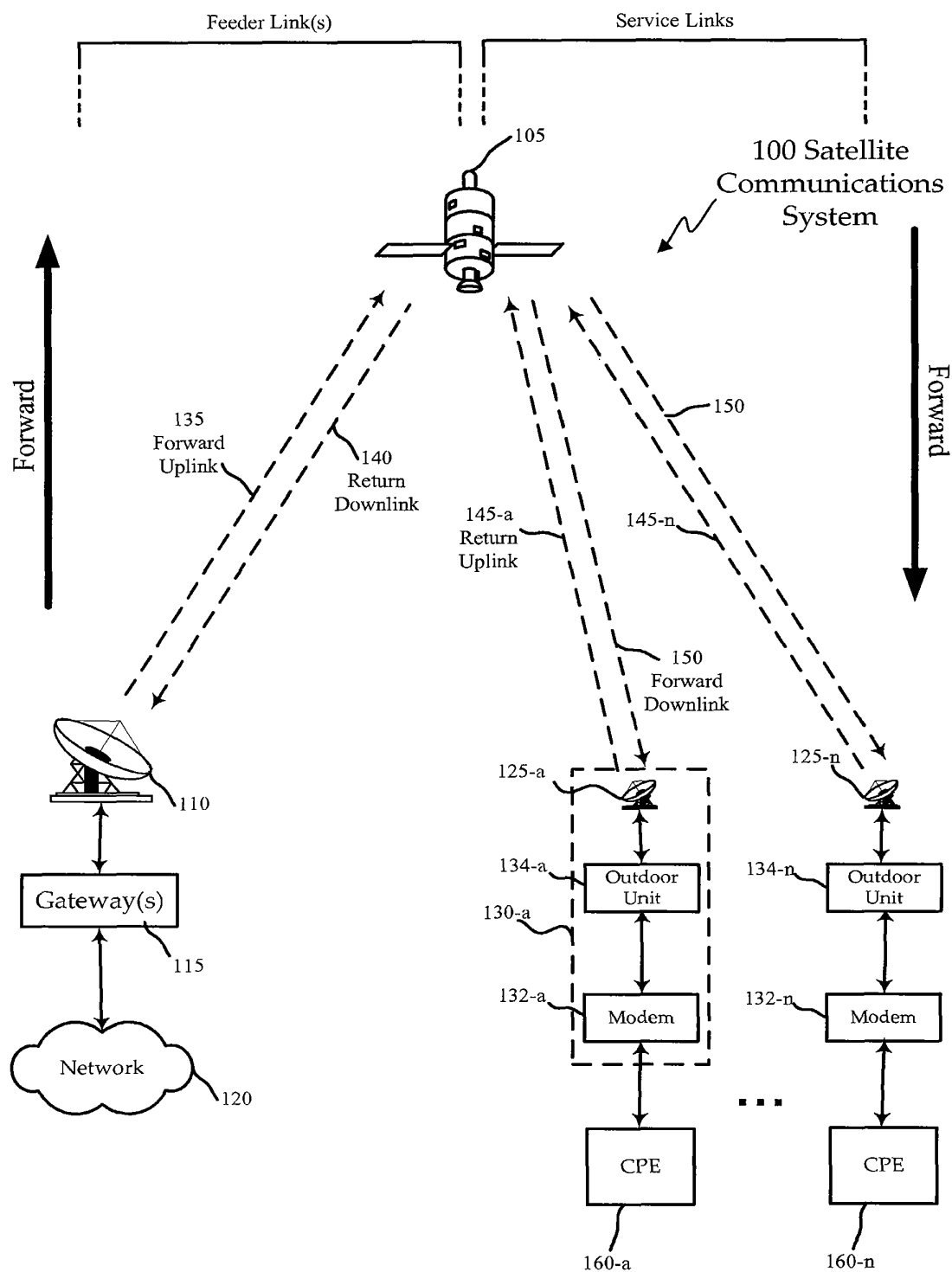
CNES - CENTRE NATIONAL D ETUDES SPATIALES

Family 16/44 - FAMPAT - ©Questel

Title

(WO200915093)

Capacity maximization for a unicast spot beam satellite system

Images**Publication data including kind & date**

US20090023384	A1	2009-01-22	US20090023384
WO2009015093	A1	2009-01-29	WO200915093
US8010043	B2	2011-08-30	US8010043
US20110306293	A1	2011-12-15	US20110306293
US8285202	B2	2012-10-09	US8285202
US20130017778	A1	2013-01-17	US20130017778



JP2006525709	A	2006-11-09	JP2006525709				
FR2854503	B1	2006-12-15	FR2854503				
US7545315	B2	2009-06-09	US7545315				
JP4638865	B2	2011-02-23	JP4638865				
CN1781215	B	2011-06-29	CN1781215B				
CA2523843	C	2012-03-27	CA2523843				

Abstract

(EP1473799)

The satellite has a transmitting and/or receiving antenna with a transmission and/or reception source. A transmission and/or reception module (R) of the source delivers and/or receives a beam as per a direction defined by selected phase and amplitude values. A processing module (MT) coupled to the module (R) deviates the beam or receiving direction according to another direction selected by variation of the amplitude value. An independent claim is also included for a usage of satellite in Ku and/or Ka frequency bands.

Inventors

MAQUET FREDDY

MAILLET OLIVIER

Latest standardized assignees - inventors removed

ALCATEL

THALES

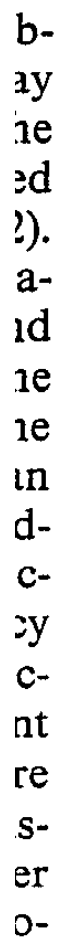
Family 18/44 - FAMPAT - ©Questel

Title

(EP-277984)

Beam-forming network

Images



Publication data including kind & date

WO8801441	A1	1988-02-25	WO8801441
CN87105577	A	1988-04-27	CN87105577
EP0277984	A1	1988-08-17	EP-277984
JPH01500554	A	1989-02-23	JP01500554
US4827268	A	1989-05-02	US4827268
CN1008675	B	1990-07-04	CN1008675B
CA1282879	C	1991-04-09	CA1282879
EP0277984	B1	1992-06-10	EP-277984
DE3779748	D1	1992-07-16	DE3779748
DE3779748			



JP2728251 T2 1993-01-28 DE3779748
B2 1998-03-18 JP2728251

**Abstract**

(EP-277984)

A satellite communications system employs separate subsystems for providing broadcast and point-to-point two-way communications using the same assigned frequency band. The broadcast and point-to-point subsystems employ an integrated satellite antenna system which uses a common reflector (12). The point-to-point subsystem achieves increased communication capacity through the reuse of the assigned frequency band over multiple, contiguous zones (32, 34, 36, 38) covering the area of the earth to be serviced. Small aperture terminals in the zones are serviced by a plurality of high gain downlink fan beams (29) steered in the east-west direction by frequency address. A special beam-forming network (98) provides in conjunction with an array antenna (20) the multiple zone frequency address function. The satellite (10) employs a filter interconnection matrix (90) for connecting earth terminals in different zones in a manner which permits multiple reuse of the entire band of assigned frequencies. A single pool of solid state transmitters allows rain disadvantaged users to be assigned higher than normal power at minimum cost. The intermodulation products of the transmitters are geographically dispersed.

Inventors

ROSEN, HAROLD, A.

Latest standardized assignees - inventors removed

HUGHES AIRCRAFT

HUGHES ELECTRONICS

Family 19/44 - FAMPAT - ©Questel

Title

(EP-868036)

Satellite communications terminal location system and method

Images

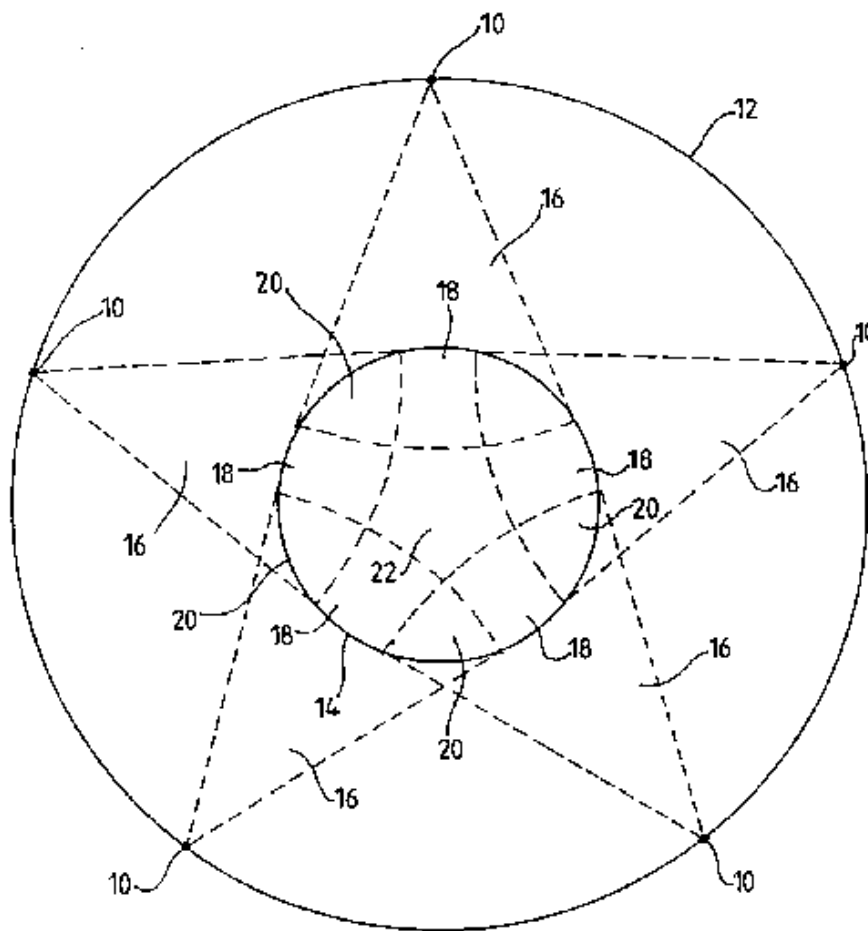


Fig.1.

Publication data including kind & date

GB9706345	D0	1997-05-14	GB9706345
EP0868036	A2	1998-09-30	EP-868036
JPH10276467	A	1998-10-13	JP10276467
GB2325115	A	1998-11-11	GB2325115
EP0868036	A3	1999-04-28	EP-868036
GB2325115	B	2000-07-05	GB2325115
US6128468	A	2000-10-03	US6128468
EP0868036	B1	2008-01-30	EP-868036
DE69839065	D1	2008-03-20	DE69839065
DE69839065	T2	2008-05-08	DE69839065



Abstract

(EP-868036)

In a satellite communications system, where a satellite 10 provides a plurality of radio beams 30, and where distance and/or angle measurement from a satellite 10 or satellites 10 enables the position of the user terminal 44, on the surface of the earth 14, to be measured to within an uncertainty of being in one out of a possible plurality of positions 142, when some out of the plurality of positions fall within a single beam 30A, which one of the plurality of possible positions 142 is actually occupied by the user terminal 44 is determined by assessing the quality of signals received from those other, adjacent, overlapping beams 30B - 30G which surround the beam 30A. <IMAGE>

Inventors

WYRWAS RICHARD

Latest standardized assignees - inventors removed

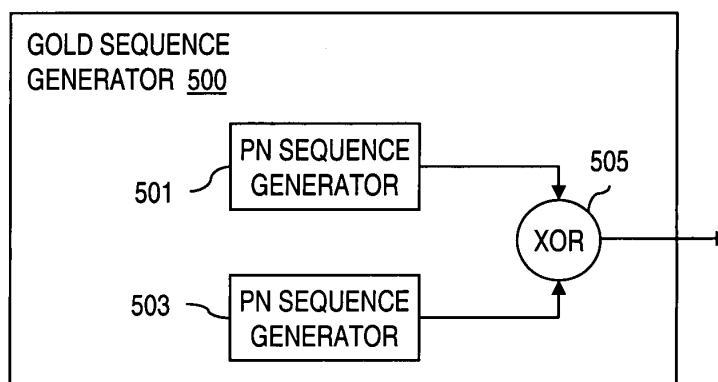
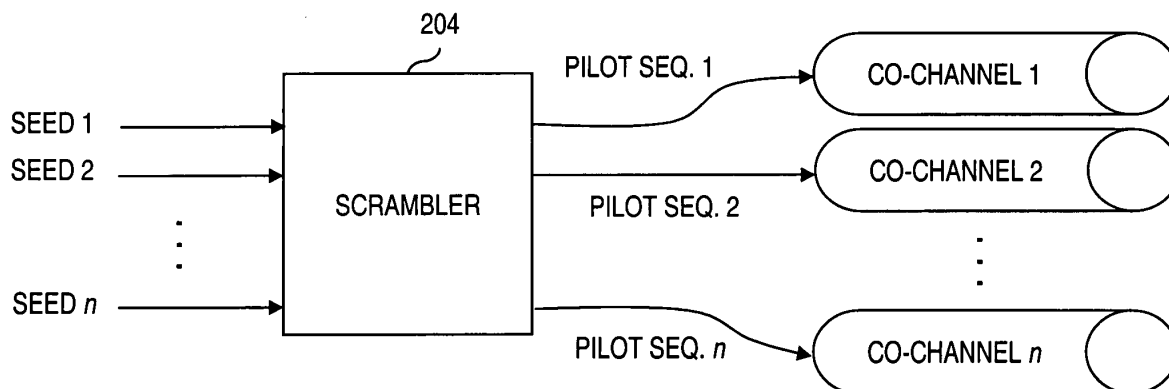
DBSD SERVICES

Family 20/44 - FAMPAT - ©Questel

Title

(EP2266244)

Method and apparatus for indentifying co-channel interference

Images**Publication data including kind & date**

US20050226418	A1	2005-10-13	US20050226418
US20050226414	A1	2005-10-13	US20050226414
US20050229230	A1	2005-10-13	US20050229230
WO2005101845	A2	2005-10-27	WO2005101845
WO2005101844	A2	2005-10-27	WO2005101844
WO2005101840	A2	2005-10-27	WO2005101840



WO2005101839	A2	2005-10-27	WO2005101839				
CA2562664	A1	2005-10-27	CA2562664				
CA2562662	A1	2005-10-27	CA2562662				
CA2562551	A1	2005-10-27	CA2562551				
CA2562549	A1	2005-10-27	CA2562549				
WO2005101840	A3	2006-02-23	WO2005101840				
US20060153313	A1	2006-07-13	US20060153313				
US20060227894	A1	2006-10-12	US20060227894				
KR20060130782	A	2006-12-19	KR20060130782				
KR20060135949	A	2006-12-29	KR20060135949				
EP1738586	A2	2007-01-03	EP1738586				
US7161988	B2	2007-01-09	US7161988				
EP1741292	A2	2007-01-10	EP1741292				
EP1741199	A2	2007-01-10	EP1741199				
KR20070008695	A	2007-01-17	KR20070008695				
EP1743486	A2	2007-01-17	EP1743486				
KR20070011482	A	2007-01-24	KR20070011482				
WO2005101844	A3	2007-02-01	WO2005101844				
CN1957539	A	2007-05-02	CN1957539				
WO2005101839	A3	2007-05-24	WO2005101839				
WO2005101839	B1	2007-07-05	WO2005101839				
EP1738586	A4	2007-08-08	EP1738586				
CN101019108	A	2007-08-15	CN101019108				
CN101049018	A	2007-10-03	CN101049018				
EP1741199	A4	2007-10-31	EP1741199				
WO2005101845	A3	2007-11-01	WO2005101845				
JP2007533263	A	2007-11-15	JP2007533263				
JP2007533262	A	2007-11-15	JP2007533262				
JP2007535844	A	2007-12-06	JP2007535844				
WO2005101845	B1	2007-12-13	WO2005101845				
JP2008500747	A	2008-01-10	JP2008500747				
CN101142783	A	2008-03-12	CN101142783				
KR100829342	B1	2008-05-13	KR100829342				
KR100840503	B1	2008-06-23	KR100840503				
US20080181291	A1	2008-07-31	US20080181291				
US7412209	B2	2008-08-12	US7412209				
KR100862511	B1	2008-10-08	KR100862511				
US7460832	B2	2008-12-02	US7460832				
US20090052503	A1	2009-02-26	US20090052503				
US20090068953	A1	2009-03-12	US20090068953				
US7551736	B2	2009-06-23	US7551736				
KR100909511	B1	2009-07-27	KR100909511				
WO2009124195	A1	2009-10-08	WO2009124195				
EP1741292	A4	2009-12-09	EP1741292				
EP1743486	A4	2009-12-30	EP1743486				
CN101019108	B	2010-05-05	CN101019108B				
AR071292	A1	2010-06-09	AR--71292				
MX2010010911	A	2010-11-04	MX2010010911				

CN101049018	B	2010-11-17	CN101049018B				
EP2259531	A1	2010-12-08	EP2259531				
KR20100131006	A	2010-12-14	KR20100131006				
JP2010288300	A	2010-12-24	JP2010288300				
HK1106596	A1	2010-12-24	HK1106596				
EP2266244	A1	2010-12-29	EP2266244				
JP2011019239	A	2011-01-27	JP2011019239				
JP2011019236	A	2011-01-27	JP2011019236				
CA2562551	C	2011-02-08	CA2562551				
CN102037673	A	2011-04-27	CN102037673				
JP2011229154	A	2011-11-10	JP2011229154				
CN1957539	B	2011-11-16	CN1957539B				
CA2562662	C	2011-11-29	CA2562662				
KR101106357	B1	2012-01-18	KR101106357				
HK1103937	A1	2012-05-11	HK1103937				
US8213553	B2	2012-07-03	US8213553				
JP4981956	B2	2012-07-25	JP4981956				
CN101142783	B	2012-09-05	CN101142783B				
CA2562664	C	2013-02-12	CA2562664				
CA2562549	C	2013-03-19	CA2562549				
US8406425	B2	2013-03-26	US8406425				
JP5203699	B2	2013-06-05	JP5203699				
US8571480	B2	2013-10-29	US8571480				
CN102037673	B	2013-11-20	CN102037673B				
US8594575	B2	2013-11-26	US8594575				
JP5474694	B2	2014-04-16	JP5474694				
EP1741199	B1	2014-11-05	EP1741199				
ES2528659	T3	2015-02-11	ES2528659				
EP2266244	B1	2015-04-01	EP2266244				
ES2539289	T3	2015-06-29	ES2539289				
BRPI0910225	A2	2015-09-22	BR200910225				
EP1738586	B1	2017-05-17	EP1738586				
EP2259531	B1	2018-06-06	EP2259531				

Abstract

(EP2266244)

Methods and apparatuses identifying a co-channel interference signal in communications systems are disclosed. An exemplary method comprises generating an interference signal by subtracting a reconstructed desired signal from an at least partially demodulated composite signal, and generating synchronization statistics of interference signal using different scrambling codes. The interference signal is identified as the signal associated with the scrambling code that was used to generate an interference signal having a desired synchronization statistic.

Inventors

ZHOU GUANGCAI

CHEN ERNEST C

SANTORU JOSEPH

WANG JUDITH M

Latest standardized assignees - inventors removed

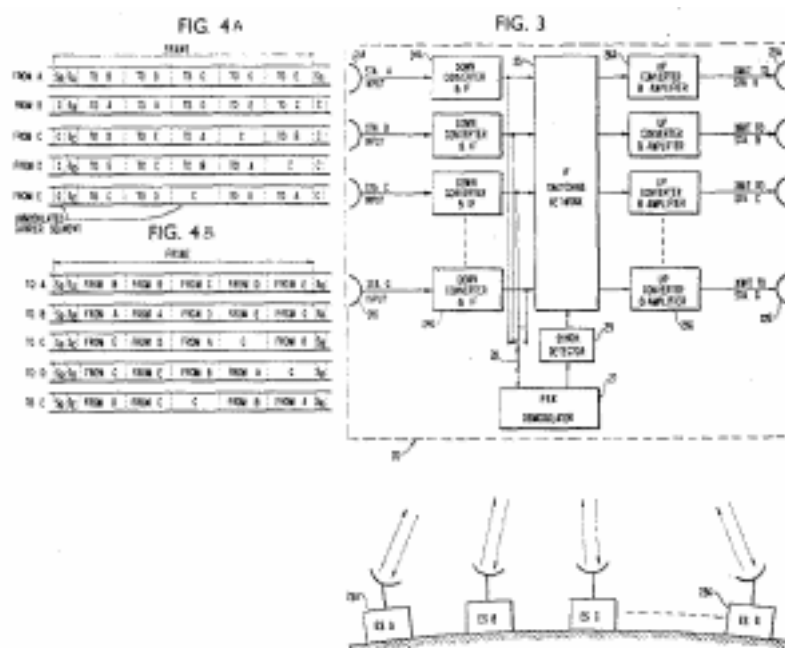
DTV G LICENSING

Family 21/44 - FAMPAT - ©Questel

Title

(FR2064358)

Edge switching systems of communications satellites to time sharing.

Images**Publication data including kind & date**

DE2050173	A1	1971-04-22	DE2050173
FR2064358	A1	1971-07-23	FR2064358
FR2064358	B1	1973-01-12	FR2064358
GB1329866	A	1973-09-12	GB1329866
JPS5149166	B2	1976-12-24	JP76049166
DE2050173	C2	1982-06-16	DE2050173

**Abstract**

(FR2064358)

1329866 Space-satellite communication systems POST OFFICE 14 Oct 1970 [15 Oct 1969] 48868/70 Headings H4K and H4L A space-satellite has a switching network which routes segments of the received signal multiplex according to which ground stations are intended to receive the segments, segments for each ground station being switched to a corresponding directional antenna beamed to that station, control of the switching network being such that the satellite can be adapted on command to suit segments of altered duration and to suit changed allocation of segments. The satellite may receive signals from ground stations by way of a single global antenna and relay the appropriate segments of each multiplex received by way of respective ones of pencil beam millimetre wave antennae directed at the ground stations. The space-satellite relay station of Fig. 3, however, has receive antennae 21A to 21G associated with respective ground stations A to G to which the satellite transmits on separate radio beams by way of antennae 22A to 22G. A switching network 25 reorders the received segments according to destination. Synchronization of the multiplex.-An example of the frames transmitted by each station is shown in Fig. 4A while Fig. 4B shows the frames received by each station with the segments collated according to destination by the satellite switching network. The signals are pulse code modulated in time division multiplex and are coherently phase shift keyed for transmission. The satellite may initiate and broadcast a reference code for synchronizing the system but, as illustrated, one ground station of the system is nominated to transmit a reference code word SR. At the satellite a switch 28, set by a command link, connects the nominated reference station antenna to synchronizing circuits for the satellite switching network. A received reference code word is broadcast by the satellite over all transmit antennae. Following transmission of the reference code word by the nominated station, and transmission of unmodulated carrier by all other stations in corresponding positions of the multiplex, all stations transmit their own identification codes

which are relayed back to the respective same stations by appropriate switching in the satellite. After such initial codes the frame transmitted by each ground station is divided into equal segments comprising groups of PCM channels allotted for transmission to specific other ground stations. Fig. 4A shows one pattern of segment allocation, the satellite control circuit being programmed over a command link to switch according to the prevailing segment duration and pattern of allocation in order to produce the received segment sequences of Fig. 4B. It is stated that more than one ground station may lie within the beam of a single pair of transmit/receive antennas on the satellite. Space-satellite switching control. - Transistors are employed as radio frequency switches which, in a first arrangement, are connected as switching trees, one tree for each transmit antenna to which the associated tree selectively connects any one of the receive antennas, Fig. 6, not shown. For an eight station system each tree fans out over three stages and is operated to make a selective connection in response to a 3-bit code. The sequential selections, corresponding to sequences such as shown for each station in Fig. 4B, are made from a stored array of 3-bit codes sequentially gated to operate the switching tree. Switching times, corresponding to the transition between segments or reference codes, are determined by a 1000 step counter with a cycle time equal to the multiplex frame, a series of registers equal to the number of switching operations required in the sequence being set up with timing numbers to indicate the transition points of the sequence. As the counter progresses it matches the timing numbers one after the other and at each match it steps a sequence counter to gate the next 3-bit switch tree code. The array of 3-bit codes and timing numbers is set up in accordance with instructions on a command link and is varied according to requirements. In a second arrangement the switching network comprises a matrix with a row distributing each receive antenna input and a column serving each transmit antenna output, Fig. 7, not shown. The crosspoint switches of each column are controlled by codes circulating in an associated cyclic access store, the position of the codes in the store cycle being chosen to match the transitions between segments and code words of the multiplex. To hold a cross-point operated during a multiplex segment or code word, the cross-point codes are repeated in successive compartments of the access stores so that they are repeatedly applied to a cross-point until its release is required. The access stores are set up over the system command link.

(From GB1329866 A)

Inventors

SCHMIDT, WILLIAM G.

SHIMASAKI, NOBUHIKO, ROCKVILLE, MD., US

Latest standardized assignees - inventors removed

COMSAT - COMMUNICATIONS SATELLITE CORPORATION

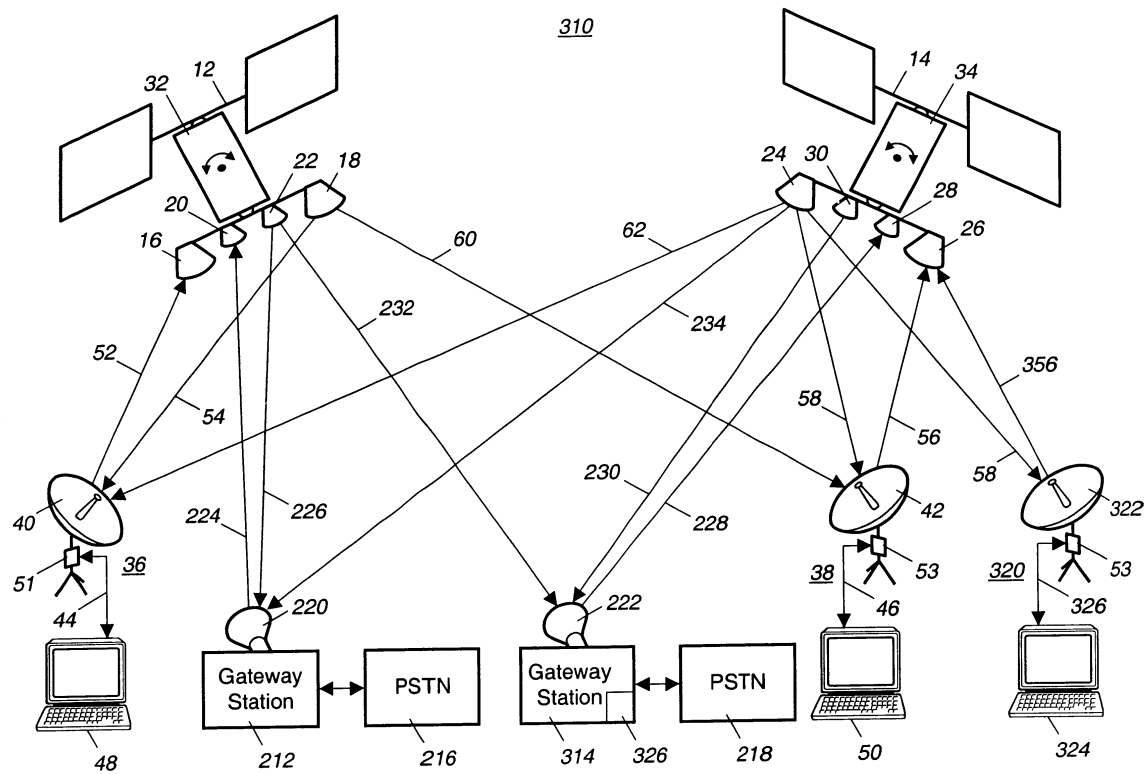
Family 22/44 - FAMPAT - ©Questel

Title

(EP1137197)

Communication system utilizing multiple satellites without intersatellite crosslinks

Images



Publication data including kind & date

CA2336757	A1	2001-09-21	CA2336757
EP1137197	A2	2001-09-26	EP1137197
JP2001298390	A	2001-10-26	JP2001298390
EP1137197	A3	2003-09-10	EP1137197
US6628922	B1	2003-09-30	US6628922
CA2336757	C	2005-11-22	CA2336757



Abstract

(EP1137197)

A communications system includes two satellites located at the same node along the geostationary arc each capable of receiving RF signals through an uplink channel and transmitting RF signals through a downlink channel distinct from the uplink channels. At least two user terminals are in the system, with each user terminal able to transmit RF signals to only one of the satellites, but at least one of the user terminals is able to receive RF signals from both of the satellites. <IMAGE>

Inventors

BERGER HARVEY L
NIVENS DENNIS A
JUE REGINALD

Latest standardized assignees - inventors removed

NORTHROP GRUMMAN
NORTHROP GRUMMAN SYSTEMS

Family 23/44 - FAMPAT - ©Questel

Title

(EP2869481)

Overlaying an air to ground communication system on spectrum assigned to satellite systems

Images

An air to ground communication system provides internet access to aircraft from ground based stations. The air to ground system shares spectrum with uplink portions of a satellite communication spectrum. Interference mitigation techniques are employed to avoid interference between the ground based communications and satellite communications. Fade mitigation techniques are employed to provide communication to aircraft at low angles of elevation in the presence of rain.

Inventors

JALALI AHMAD

SCHIFF LEONARD N

AMES WILLIAM G

Latest standardized assignees - inventors removed

QUALCOMM

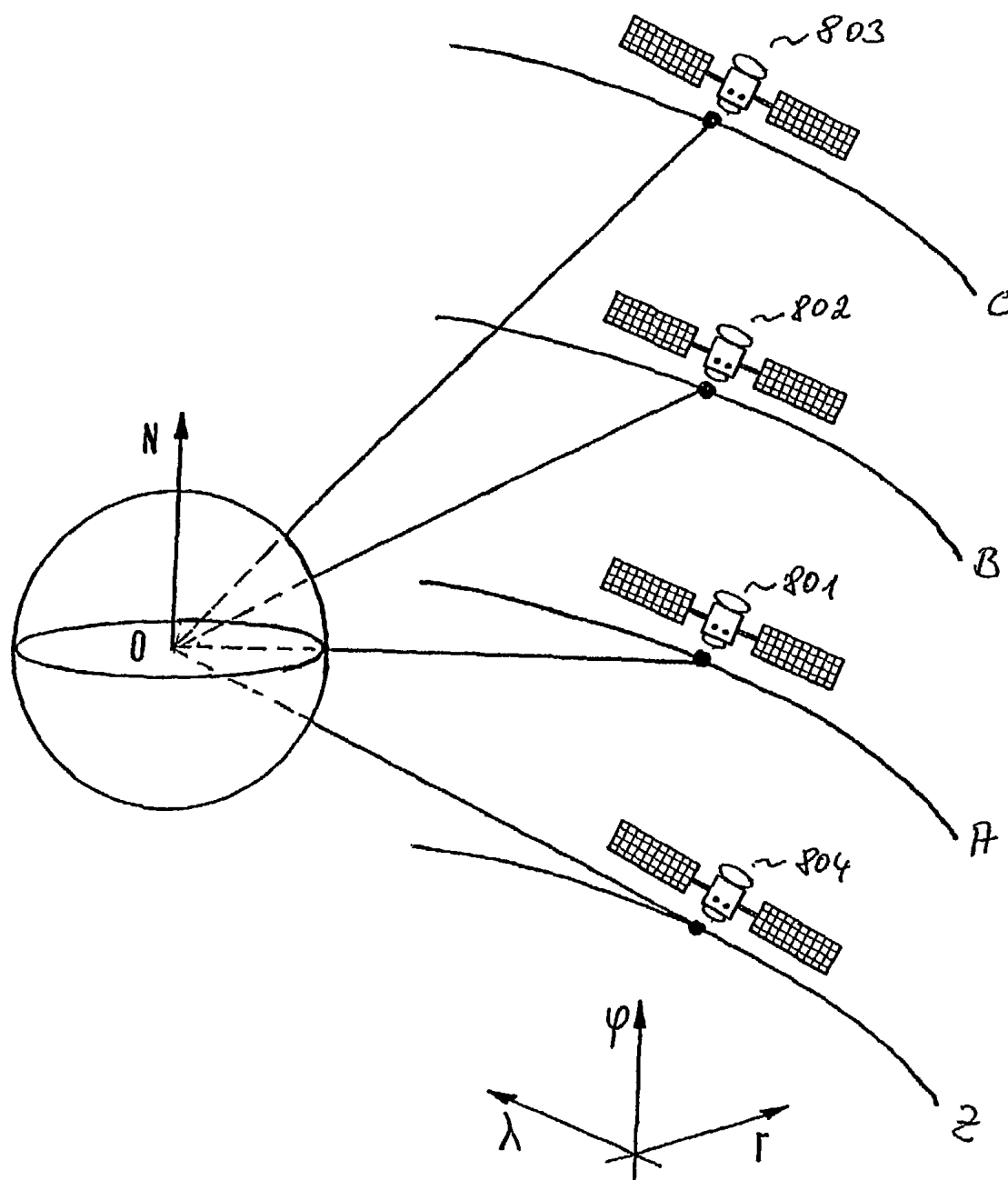
Family 24/44 - FAMPAT - ©Questel

Title

(EP1320949)

Spread spectrum communication system using a quasi-geostationary satellite

Images



Publication data including kind & date

WO200227976	A1	2002-04-04	WO200227976
CA2422601	A1	2002-04-04	CA2422601
WO200227974	A2	2002-04-04	WO200227974
AU7909400	A	2002-04-08	AU200079094
AU1499402	A	2002-04-08	AU200214994
WO200227976	A8	2002-06-06	WO200227976
EP1320949	A2	2003-06-25	EP1320949
BR0114174	A	2003-07-22	BR200114174
BRPI0114174	A1	2003-07-22	BRPI0114174
US20030181161	A1	2003-09-25	US20030181161
EA200300410	A1	2003-10-30	EA200300410
CN1455992	A	2003-11-12	CN1455992
JP2004510393	A	2004-04-02	JP2004510393



EA004692	B1	2004-06-24	EA---4692				
AU2002214994	B2	2005-04-21	AU2002214994				
AR042581	A1	2005-06-29	AR--42581				
CN1220342	C	2005-09-21	CN1220342C				
EP1320949	B1	2007-02-14	EP1320949				
AT354214	T	2007-03-15	ATE354214				
DE60126627	D1	2007-03-29	DE60126627				
PT1320949	E	2007-05-31	PT1320949				
HK1054280	A1	2007-06-22	HK1054280				
ES2283444	T3	2007-11-01	ES2283444				
WO200227974	A3	2007-11-29	WO200227974				
DE60126627	T2	2007-12-06	DE60126627				
AU2000279094	A8	2008-01-24	AU2000279094				
US7539456	B2	2009-05-26	US7539456				
CA2422601	C	2011-11-08	CA2422601				
BRPI0114174	A2	2016-04-19	BR200114174				
BRPI0114174	B1	2016-05-31	BR200114174				

Abstract

(EP1320949)

The invention refers to a satellite communications system with a mobile user terminal. In order to provide a satellite communications system which enables communication with a mobile user terminal via conventional communication satellites on any area of interest on earth, a quasi-geostationary satellite is operated in an inclined orbit and sends a spread downlink signal $s'(t)$ to said area of interest on earth to be received and despread by a mobile user terminal.

Inventors

BETHSCHEIDER GERHARD

HARLES GUY

Latest standardized assignees - inventors removed

SES ASTRA

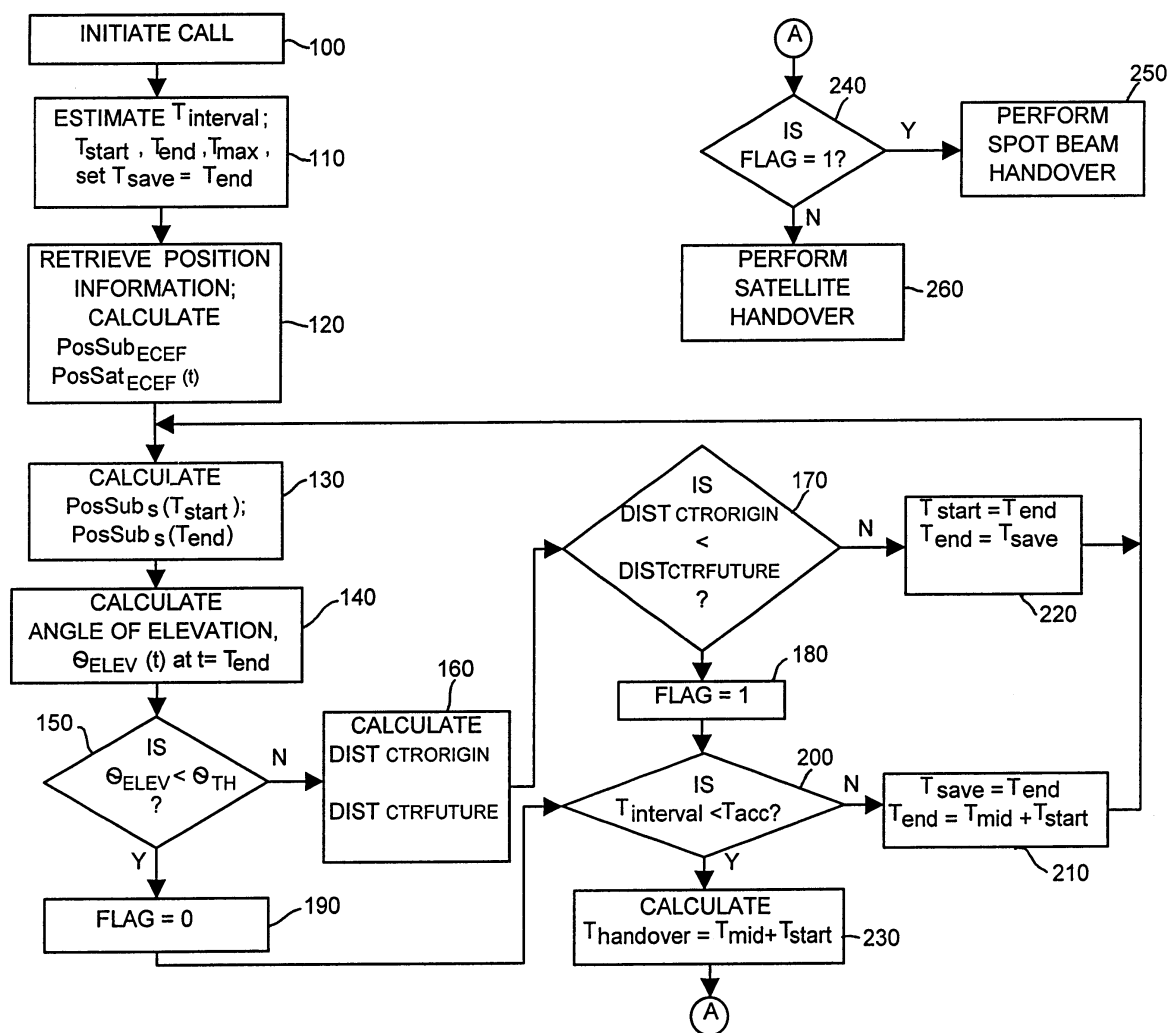
Family 25/44 - FAMPAT - ©Questel

Title

(WO9956408)

A method and apparatus for predicting spot beam and satellite handover in a mobile satellite communication network

Images



Publication data including kind & date

WO9956408	A1	1999-11-04	WO9956408
AU3874799	A	1999-11-16	AU9938747
US6246874	B1	2001-06-12	US6246874



Abstract

(WO9956408)

A method and apparatus for predicting when to perform spot beam and satellite handover in a mobile satellite communication network (9) that uses the position of the mobile subscriber. The method and apparatus perform all calculations with respect to a satellite-based coordinate system, thereby eliminating the need to model the shape of the geometrically complex spot beams (38 and 40) on the surface of the earth. The position of a mobile subscriber unit (11) that initiates a call is tracked relative to a set of spot beam boundaries (42) that are located equidistant between a first spot beam (38) within which the subscriber unit (11) is located at the time of call initiation and a set of adjacent spot beams (40). An interval during which the subscriber unit (11) will cross over one of the boundaries (42) is estimated. The spot beam (40) into which the subscriber (11) is traveling is identified and the estimated interval is adjusted until a desired level of accuracy has been achieved at which time the call is transferred from the first spot beam (38) to the adjacent spot beam (40) at the estimated time. For satellite handover, an angle of elevation between the subscriber unit (11) and the satellite (10) is calculated and compared to a threshold angle. When the angle of elevation drops below the threshold angle due to the movement of the satellite (10), the call is transferred from a first satellite (10) to a neighboring second satellite (13).

Inventors

VOCE DANIEL

Latest standardized assignees - inventors removed

ECHOSTAR SATELLITE SERVICES

HNS SHANGHAI

HNS LICENSE SUB
 WYETH
 HNS REAL ESTATE
 ECHOSTAR 77
 HELIUS ACQUISITION
 ECHOSTAR ORBITAL
 ECHOSTAR GOVERNMENT SERVICES
 HELIUS
 HUGHES NETWORK SYSTEMS INTERNATIONAL SERVICE
 ECHOSTAR SATELLITE OPERATING
 ADVANCED SATELLITE RESEARCH
 HUGHES COMMUNICATIONS
 HNS FINANCE
 HNS INDIA VSAT
 HUGHES NETWORK SYSTEMS

Family 26/44 - FAMPAT - ©Questel

Title

(EP2371072)

Calibration apparatus and method

Images

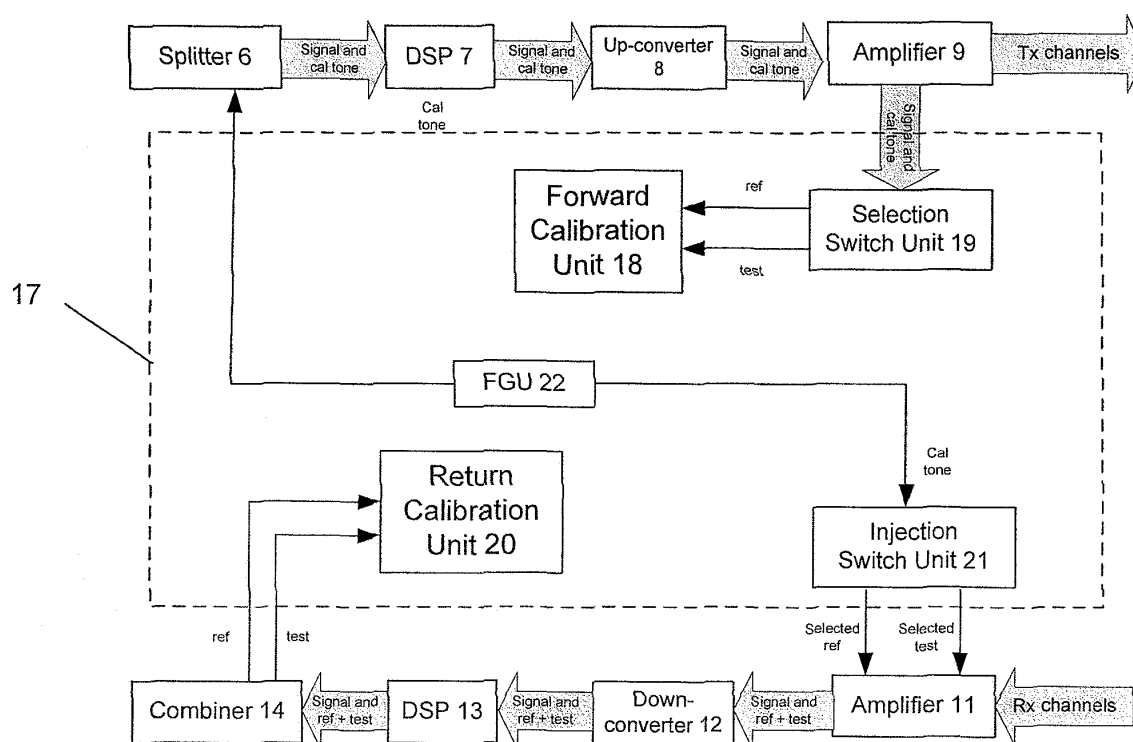


FIG. 3

Publication data including kind & date

WO2010076290	A1	2010-07-08	WO201076290
CA2748588	A1	2010-07-08	CA2748588
EP2371072	A1	2011-10-05	EP2371072
CN102273097	A	2011-12-07	CN102273097
IN5018/DELNP/2011	A	2012-04-20	IN2011DN05018
JP2012514407	A	2012-06-21	JP2012514407



RU2011132134	A	2013-02-10	RU2011132134				
JP5489362	B2	2014-05-14	JP5489362				
RU2531459	C2	2014-10-20	RU2531459				
CN102273097	B	2015-07-22	CN102273097B				
CA2748588	C	2017-08-15	CA2748588				

Abstract

(EP2371072)

There is provided an apparatus for calibrating a multi-beam satellite system comprising a beam forming network providing a plurality of signal paths, the apparatus comprising a calibration processor for determining the phase and amplitude shift of a test path of the plurality of signal paths by correlating a calibration tone extracted from the test path with a reference calibration signal, the calibration processor being configured to determine the phase and amplitude shifts of the test path for at least two calibration tones of at least two different frequencies. The apparatus also comprises means for applying a correction based on the determined phase and amplitude shift to the test path in the beam forming network. The two calibration tones of at least two different frequencies may be calibration tones injected at two different frequencies but also calibration tones translated into two different frequencies by the beam forming network. The invention allows a phase and amplitude shift for any path through the beam forming network to be calculated for any frequency in an operational frequency range of the multi-beam satellite system and corrections to be applied to form or interpret the required downlink or uplink beams of the multi-beam satellite system.

Inventors

SAHA MRINAL KANTI

BISHOP ANDREW MARK

JEREZ ANA BELEN RUIZ

CHANA SATWINDER SINGH

Latest standardized assignees - inventors removed

ASTRIUM

Family 27/44 - FAMPAT - ©Questel

Title

(EP-677929)

Satellite communication systems using demand assignment multiple access in multi-spot beam.

Images

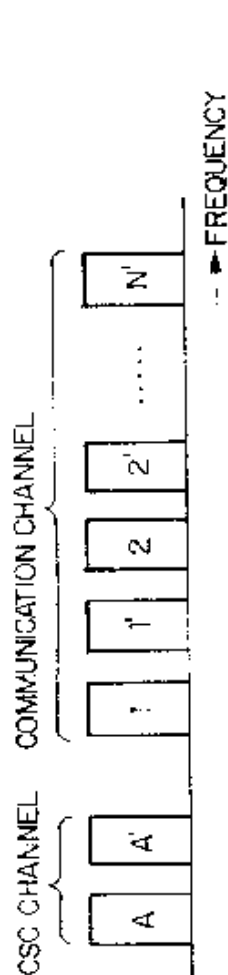


FIG. 1A
PRIOR ART

FIG. 1B PRIOR ART
100 CONT. E/S

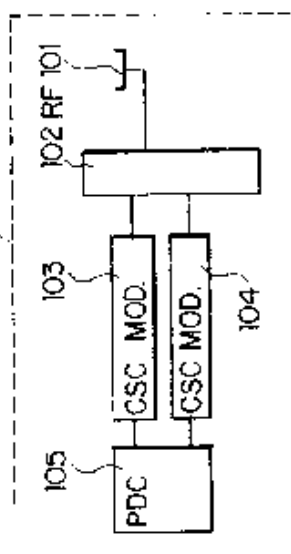


FIG. 1C PRIOR ART
150₂ E/S

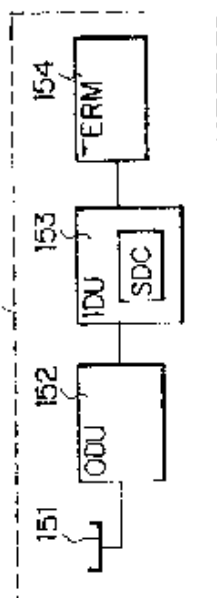


FIG. 1E PRIOR ART
150₃ E/S

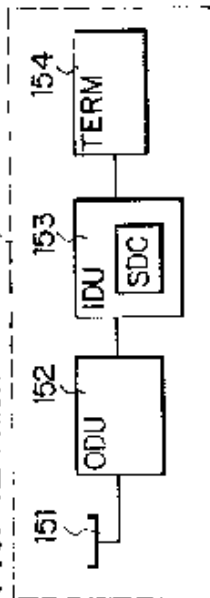
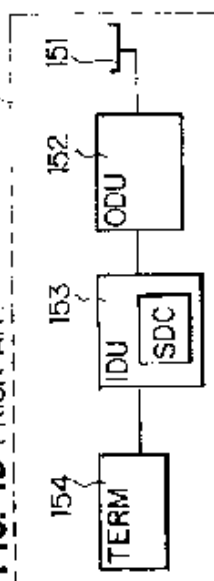


FIG. 1D PRIOR ART
150₁ E/S



Publication data including kind & date

EP0677929	A1	1995-10-18	EP-677929
AU1640695	A	1995-10-19	AU9516406
JPH07283770	A	1995-10-27	JP07283770
CN1116792	A	1996-02-14	CN1116792
AU687163	B2	1998-02-19	AU-687163
JP2730484	B2	1998-03-25	JP2730484
US5737684	A	1998-04-07	US5737684
CN1063599	C	2001-03-21	CN1063599C

Abstract

(EP-677929)



Even when a multi-spot beam is utilized, a demand assignment multiple access (DAMA) type satellite communication can be established between a plurality of satellite earth stations installed in one zone located opposite to another zone where a control station is installed, and between the control station and the satellite earth station, installed in the same zone. The control station transmits a channel setting signal for setting a communication channel to the satellite earth stations installed in the opposite zones with employment of a CSC signal, and further sets a channel of a transmitting/receiving unit in such a manner that after the CSC signal derived from the satellite earth station has been received, this CSC signal is returned thereto. A repeater station owns such a function that this repeater station receives the CSC signal to return this CSC signal, and also receives a communication signal to return this communication signal. The satellite earth station includes a delay device for setting a time defined after the CSC signal is received until a response signal is transmitted based on the received delay data. <IMAGE>

Inventors

GOTO YUJI

Latest standardized assignees - inventors removed

NEC

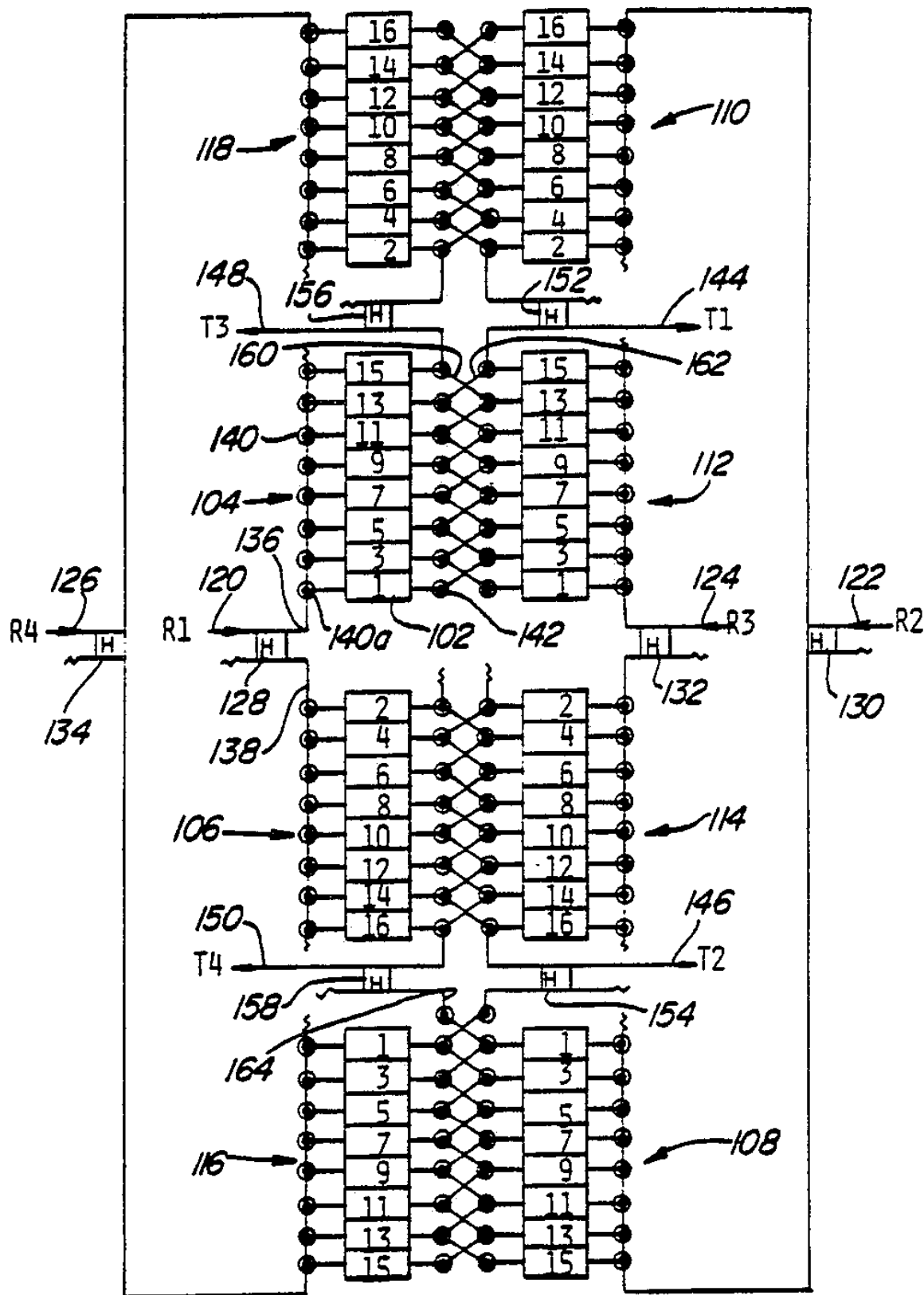
Family 28/44 - FAMPAT - ©Questel

Title

(EP-278982)

Filter interconnection matrix

Images



Publication data including kind & date

WO8801455	A2	1988-02-25	WO8801455
WO8801455	A3	1988-04-07	WO8801455
CN87105574	A	1988-05-11	CN87105574
EP0278982	A1	1988-08-24	EP-278982
JPH01500558	A	1989-02-23	JP01500558
US4858229	A	1989-08-15	US4858229
CN1011179	B	1991-01-09	CN1011179B



CA1282880	C	1991-04-09	CA1282880
EP0278982	B1	1993-01-13	EP-278982
DE3783600	D1	1993-02-25	DE3783600
DE3783600	T2	1993-08-26	DE3783600
JP2643964	B2	1997-08-25	JP2643964

**Abstract**

(EP-278982)

A satellite communications system employs separate subsystems for providing broadcast and point-to-point two-way communications using the same assigned frequency band. The broadcast and point-to-point subsystems employ an integrated satellite antenna system which uses a common reflector (12). The point-to-point subsystem achieves increased communication capacity through the reuse of the assigned frequency band over multiple, contiguous zones (32, 34, 36, 38) covering the area of the earth to be serviced. Small aperture terminals in the zones are serviced by a plurality of high gain downlink fan beams (29) steered in the east-west direction by frequency address. A special beam-forming network (98) provides in conjunction with an array antenna (20) the multiple zone frequency address function. The satellite (10) employs a filter interconnection matrix (90) for connecting earth terminals in different zones in a manner which permits multiple reuse of the entire band of assigned frequencies. A single pool of solid state transmitters allows rain disadvantaged users to be assigned higher than normal power at minimum cost. The intermodulation products of the transmitters are geographically dispersed.

Inventors

ROSEN, HAROLD, A.

THOMPSON, JAMES, D.

Latest standardized assignees - inventors removed

HUGHES AIRCRAFT

HUGHES ELECTRONICS

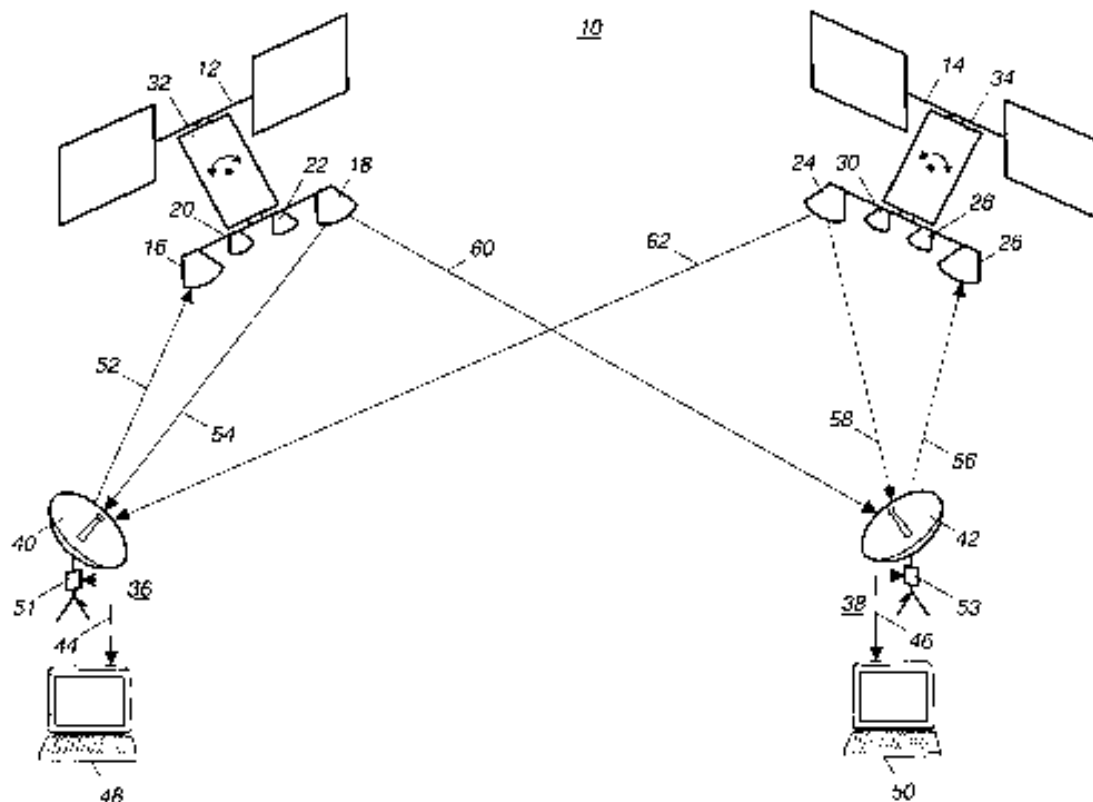
Family 29/44 - FAMPAT - ©Questel

Title

(EP1156599)

Dual receive ground terminal for use in communication systems utilizing multiple satellites

Images



Publication data including kind & date

CA2347548	A1	2001-11-17	CA2347548
EP1156599	A2	2001-11-21	EP1156599
JP2002016535	A	2002-01-18	JP2002016535
EP1156599	A3	2003-09-10	EP1156599
US6636734	B1	2003-10-21	US6636734
CA2347548	C	2005-07-12	CA2347548



Abstract

(EP1156599)

A ground terminal renders feasible a communications system that locates two satellites at the same node along the geostationary arc. Each satellite is capable of receiving RF signals through an uplink channel and transmitting RF signals through a downlink channel distinct from the uplink channels. The ground terminal is able to transmit RF signals to only one of the satellites, but can receive RF signals from both of the satellites. The ground terminal includes an antenna, an RF signal processor that includes two demodulators for processing signals from the two downlink channels, and a data processor. <IMAGE>

Inventors

BERGER HARVEY L
NIVENS DENNIS A
JUE REGINALD

Latest standardized assignees - inventors removed

NORTHROP GRUMMAN
NORTHROP GRUMMAN SYSTEMS

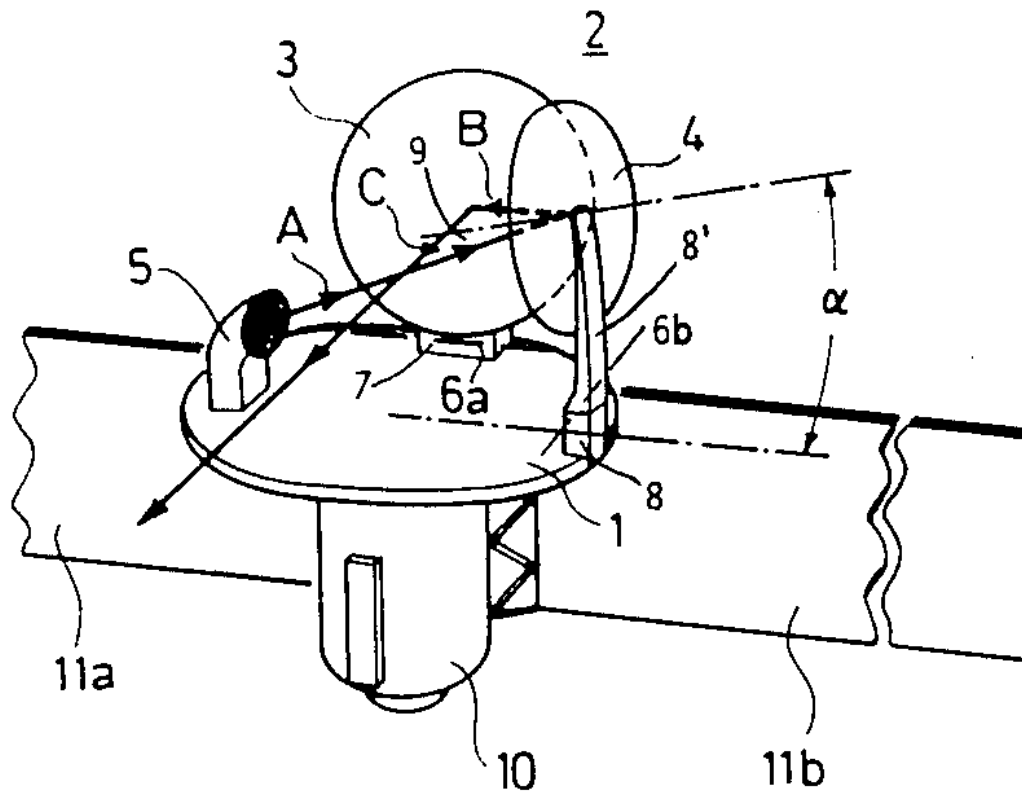
Family 30/44 - FAMPAT - ©Questel

Title

(US4690354)

Geostationary communications satellite

Images



Publication data including kind & date

DE3516811	A1	1986-11-13	DE3516811
FR2581615	A1	1986-11-14	FR2581615
JPS61261198	A	1986-11-19	JP61261198
DE3516811	C2	1987-03-12	DE3516811
US4690354	A	1987-09-01	US4690354
FR2581615	B1	1990-01-12	FR2581615
JPH068120	B2	1994-02-02	JP94008120



Abstract

(US4690354)

A geostationary sun oriented communications satellite has an operational module with a payload platform rotating at one r.p. day. The antenna components are mounted on the platform. The antenna components are so oriented relative to each other and to the platform that an efficient folding and unfolding is possible without any complicated mechanism.

Inventors

FRISCH EBERHARD

Latest standardized assignees - inventors removed

MESSERSCHMITT BOELKOW BLOHM

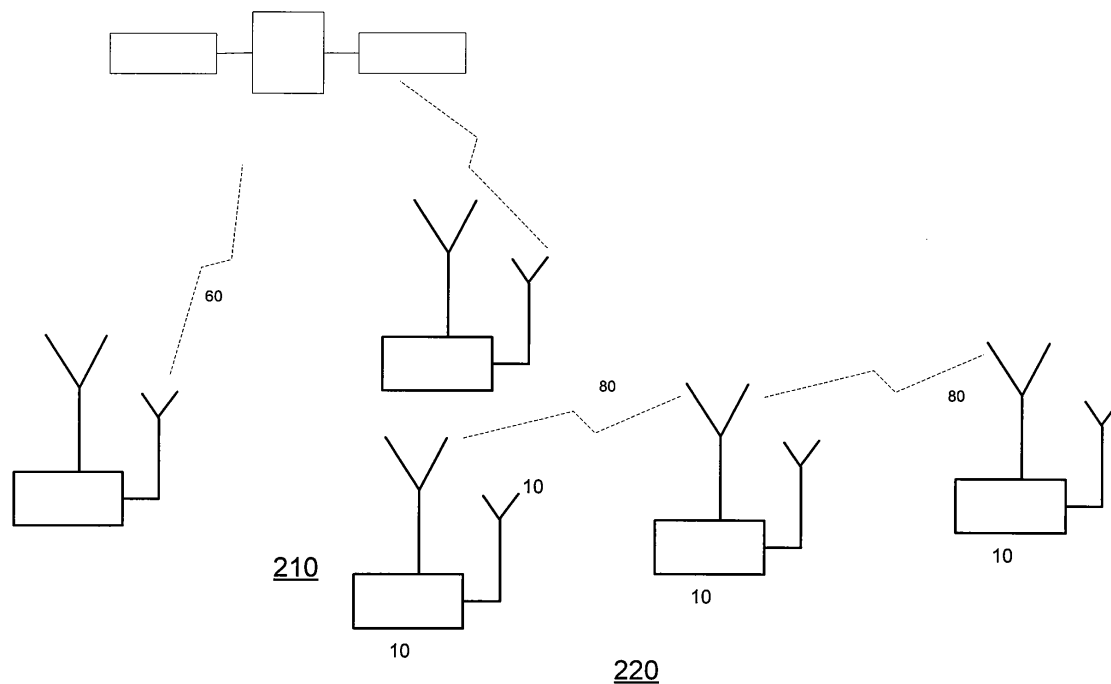
Family 31/44 - FAMPAT - ©Questel

Title

(EP1900130)

Method and device for indirect communication within a wimax network

Images



Publication data including kind & date

WO2006120670	A2	2006-11-16	WO2006120670
WO2006120669	A2	2006-11-16	WO2006120669
US20070230391	A1	2007-10-04	US20070230391
US20070236386	A1	2007-10-11	US20070236386
IN1897/MUMNP/2007	A	2007-12-07	IN2007MN01897
WO2006120669	A3	2008-01-10	WO2006120669
EP1894268	A2	2008-03-05	EP1894268
EP1900130	A2	2008-03-19	EP1900130
EA200702458	A1	2008-04-28	EA200702458
US20080198790	A1	2008-08-21	US20080198790
US20080212512	A1	2008-09-04	US20080212512
EP1894268	A4	2009-05-13	EP1894268
EA200702459	A1	2009-10-30	EA200702459
WO2006120670	A3	2011-05-19	WO2006120670



Abstract

(EP1900130)

A method and system are provided. The method includes: determining a wireless broadband terrestrial transmission scheme by a base station (410); transmitting, in response to the wireless broadband terrestrial transmission scheme, a first preamble and a first data frame by a First set of relay stations (420), towards multiple subscriber devices, substantially simultaneously; and transmitting, in response to the wireless broadband terrestrial transmission scheme, a second preamble and a second data **10** frame by another relay station (430) towards other subscriber devices. Wherein a coverage area of the other relay station does not substantially overlap a coverage area of any of the first set of relay stations.

Inventors

HARPAK OFER

BRONHOLC DANIEL

LEVANDA MATTY

Latest standardized assignees - inventors removed

WINETWORKS

Family 32/44 - FAMPAT - ©Questel

Title

(US6002360)

Microsatellite array and related method

Images

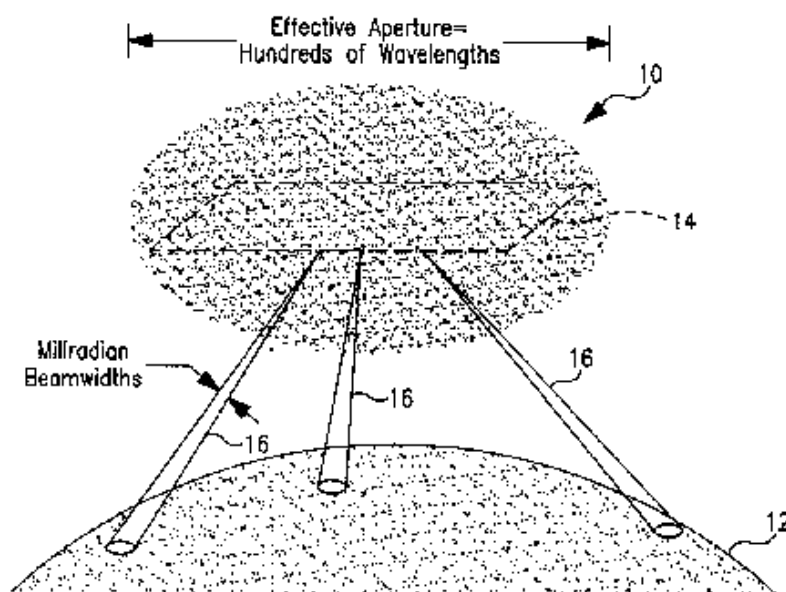


FIG. 1

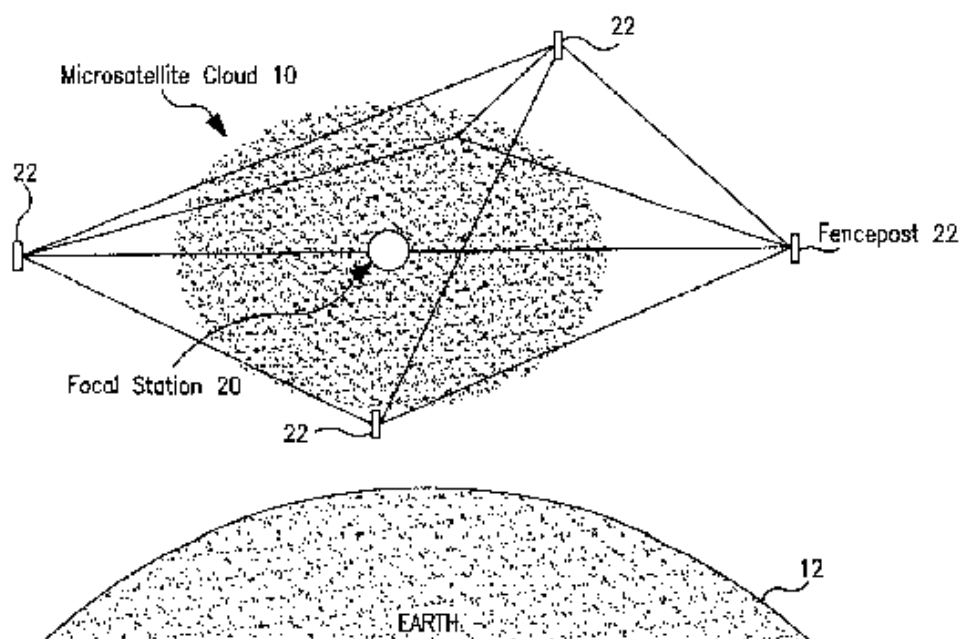


FIG. 2

Publication data including kind & date

US6002360

A 1999-12-14 US6002360



Abstract

(US6002360)

A communication relay having a large number of free-flying, self-powered miniature spacecraft (10M) that cooperate to form a large antenna array with sufficient aperture and gain to focus transmit and receive beams much more accurately than in conventional satellite communication relays. The miniature spacecraft, or microsatellites, fly in a single constellation (10) but are allowed to drift in relative position because no rigid structure is provided to restrain their relative

movement. Operation as a large phased-array antenna system is achieved by providing for accurate measurements of the microsatellite positions in real time. In one disclosed form of the array, a control satellite (20) conditions the microsatellites (10M) to form receive and transmit beams in desired directions. Received uplink signals are transmitted over communication crosslinks (42) to the control satellite (20), which forwards signals back to the microsatellites after conditioning them to form a transmit beam when forwarding the signals on as a downlink, transmission. A constellation (10) of microsatellites of the type disclosed may also be used as a deep-space communication relay, or as a radio-telescope.

Inventors

WOLCOTT JAMES L

SHAH ATUL

EVANS CHRISTOPHER T

Latest standardized assignees - inventors removed

NORTHROP GRUMMAN

NORTHROP GRUMMAN SYSTEMS

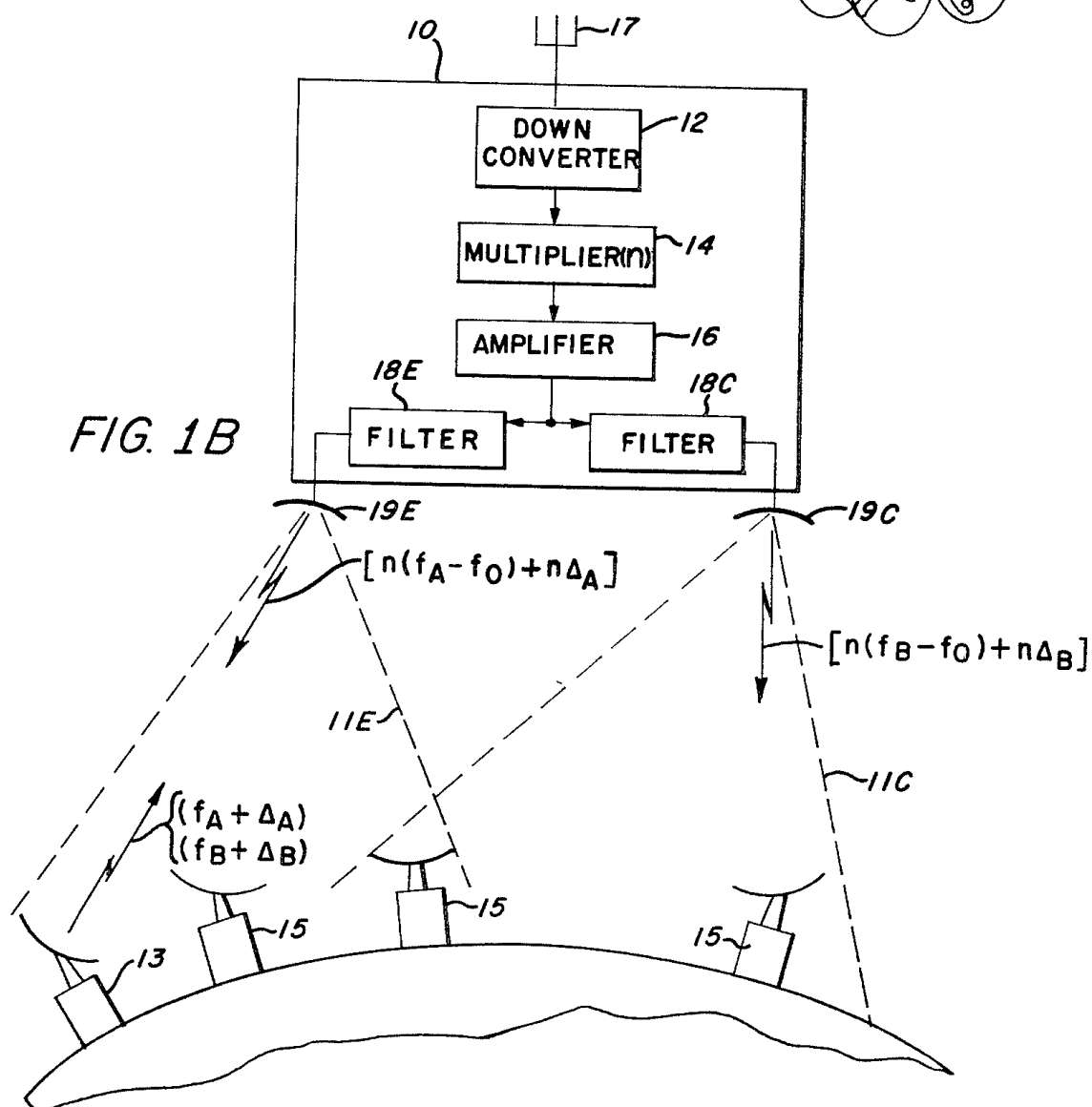
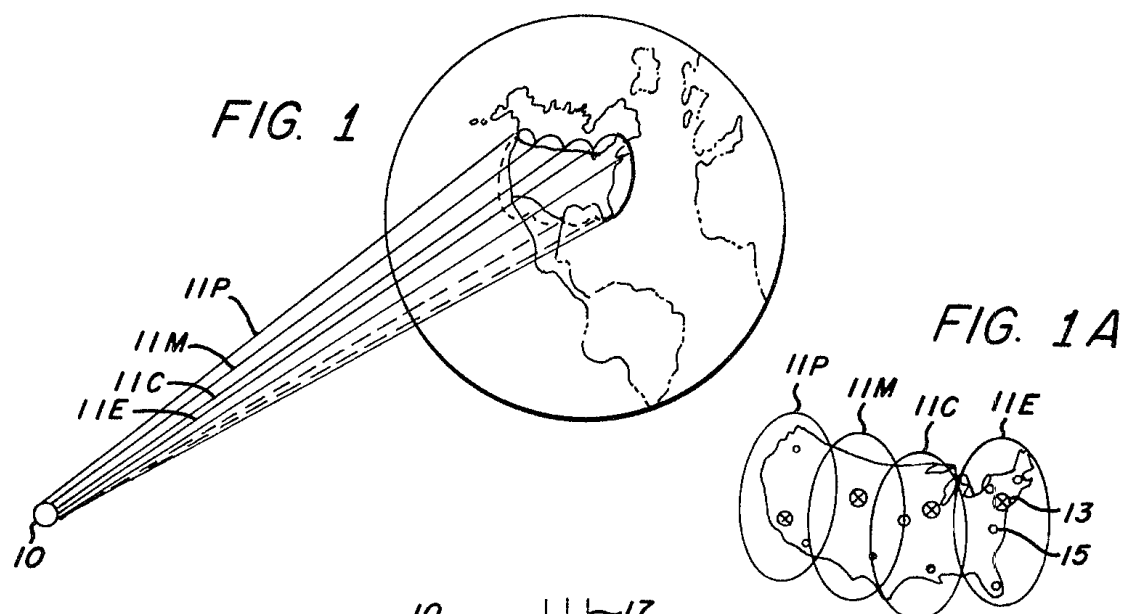
Family 33/44 - FAMPAT - ©Questel

Title

(US3710255)

Satellite communication system

Images



INVENTOR
FRANCIS A GICCA

Abstract

(US3710255)

An improved communication system using an active transponder to relay microwave signals from any one of a number of transmitting stations to selected groups of receiving stations. In a preferred system the active transponder is installed in a satellite spacecraft and is arranged to convert a number of signals, in closely spaced channels, from the transmitting stations in such a manner that the bandwidth of each one of the relayed signals is increased and retransmitted without suffering from the effects of interchannel modulation.

Inventors

GICCA F

Latest standardized assignees - inventors removed

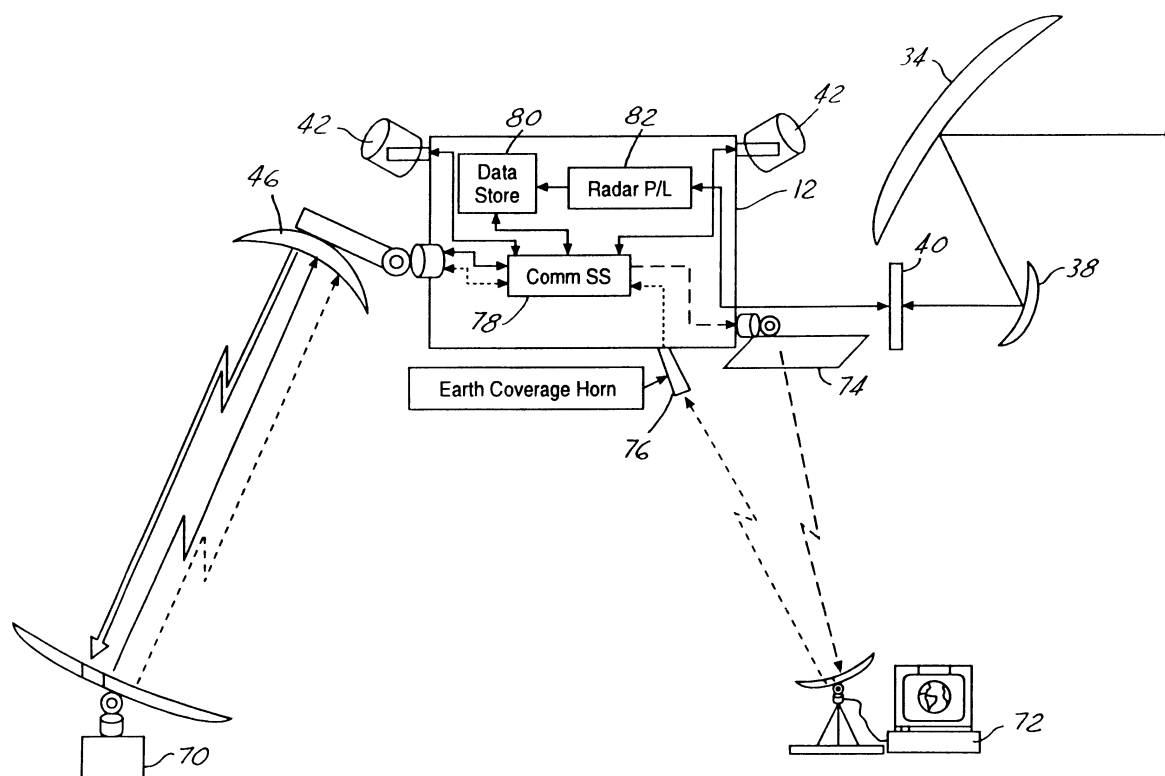
RAYTHEON

Family 34/44 - FAMPAT - ©Questel

Title

(US6859169)

Medium earth orbit satellite surveillance system and antenna configuration therefore

Images**Publication data including kind & date**

US6611226	B1	2003-08-26	US6611226
US20040113835	A1	2004-06-17	US20040113835
US6859169	B2	2005-02-22	US6859169

**Abstract**

(US6859169)

A radar surveillance system includes a plurality of satellites a plurality of medium earth orbit satellites to provide continuous, long dwell coverage of a region of interest. Each satellite has an antenna having a main reflector and a subreflector electromagnetically coupled to the main reflector. A phased array generates multiple electromagnetic beams positioned so the electromagnetic beams reflect from the subreflector onto said main reflector. The system may be used in determining slow moving targets using a combination of monopulse anomaly and target spectral width measurements. The system also performs synthetic aperture radar imagery and focussed area fast moving target detection using alternating

slope linear frequency modulated pulses. The plurality of medium Earth orbit satellites include a self-contained communications system consisting of high bandwidth self-relay crosslinks, high bandwidth downlink, and direct broadcast downlinks for processed data.

Inventors

JONES DAVID A

MCCORD HENRY L

JENSEN PAUL A

JENSEN ERIC B

KNIGHT JAMES M

Latest standardized assignees - inventors removed

DIRECTV

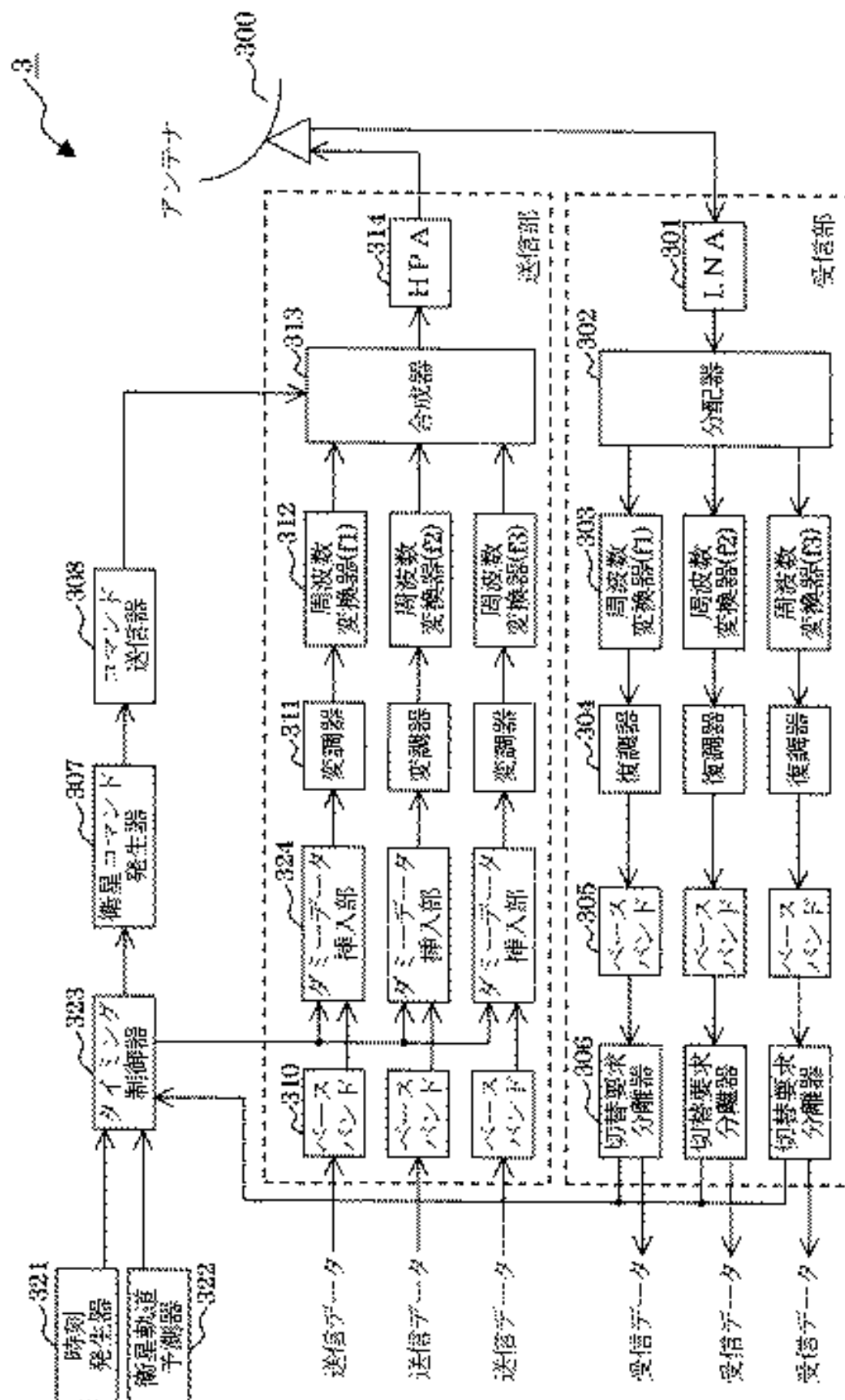
Family 35/44 - FAMPAT - ©Questel

Title

(JP2004304287)

Satellite communication system, base station, and mobile station

Images



JP2004304287	A	2004-10-28	JP2004304287
AU2004201012	B2	2005-11-10	AU2004201012
AU2004201012	B8	2005-11-24	AU2004201012
JP4037302	B2	2008-01-23	JP4037302

**Abstract**

(JP4037302)

PROBLEM TO BE SOLVED: To perform a beam switching without losing the communication data in a satellite communication system forming multi-beams.

SOLUTION: In the satellite communication system wherein a communication satellite 1 forming multi-beams cross-references a communication channel assigned to a mobile station 2 to a beam to which the mobile station 2 belongs to relay the wireless communication between the mobile station 2 and a base station 3, the base station 3 has a satellite command generator 307 for designating a beam switching time to the communication satellite, and the communication satellite 1 has a matrix switch control section 421 for switching the cross-reference between the communication channel and the beam at a beam switching time designated by the base station 3.

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Inventors

INOUE SEIYA

Latest standardized assignees - inventors removed

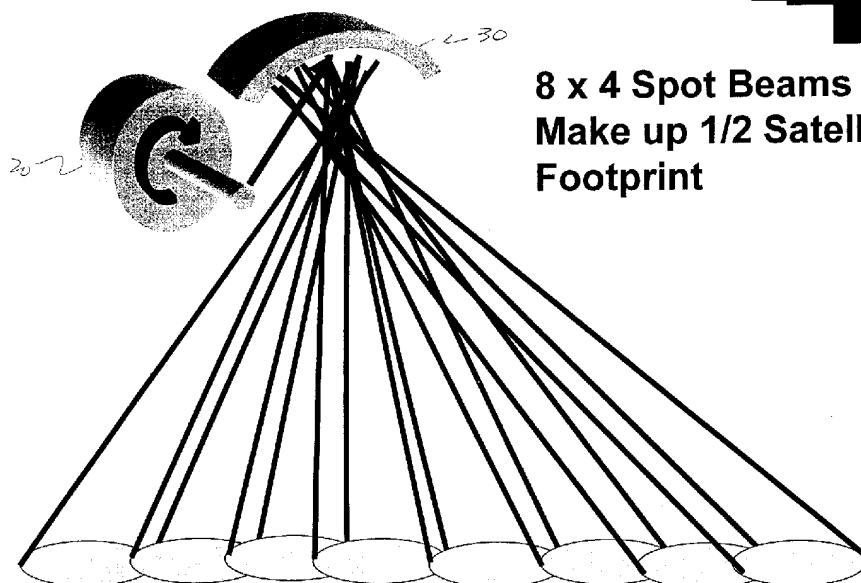
MITSUBISHI ELECTRIC

Family 36/44 - FAMPAT - ©Questel

Title

(CA2266154)

Satellite based earth fixed cell tracking method

Images**Drum Antenna Tracking Concept**

**8 x 4 Spot Beams
Make up 1/2 Satellite
Footprint**

Publication data including kind & date

CA2266154	A1	2000-09-18	CA2266154
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Abstract

(CA2266154)

The invention relates to rotating antenna feed structures and shaped reflector antennas to be used on satellites for uplink-downlink uses. The rotating antenna feeds, mounted on a device reminiscent of a wheel or roller, rolling in the direction of motion of the satellite, provide a multiplicity of spot beams. The shaped reflectors remove the distortions caused by the shape of the earth and the orbit geometry. These distortions include an hour-glass shaped distortion due to the intersection of a conical scan with the Earth's surface and a variable speed distortion due to the differing propagation geometry as the beams rotate beneath the satellite. Removal of a varying cross-orbit velocity, due to the 24 hour per day rotation of the Earth, is accomplished with varying yaw rotations of the satellite.

Inventors

SCAINI CARMELO

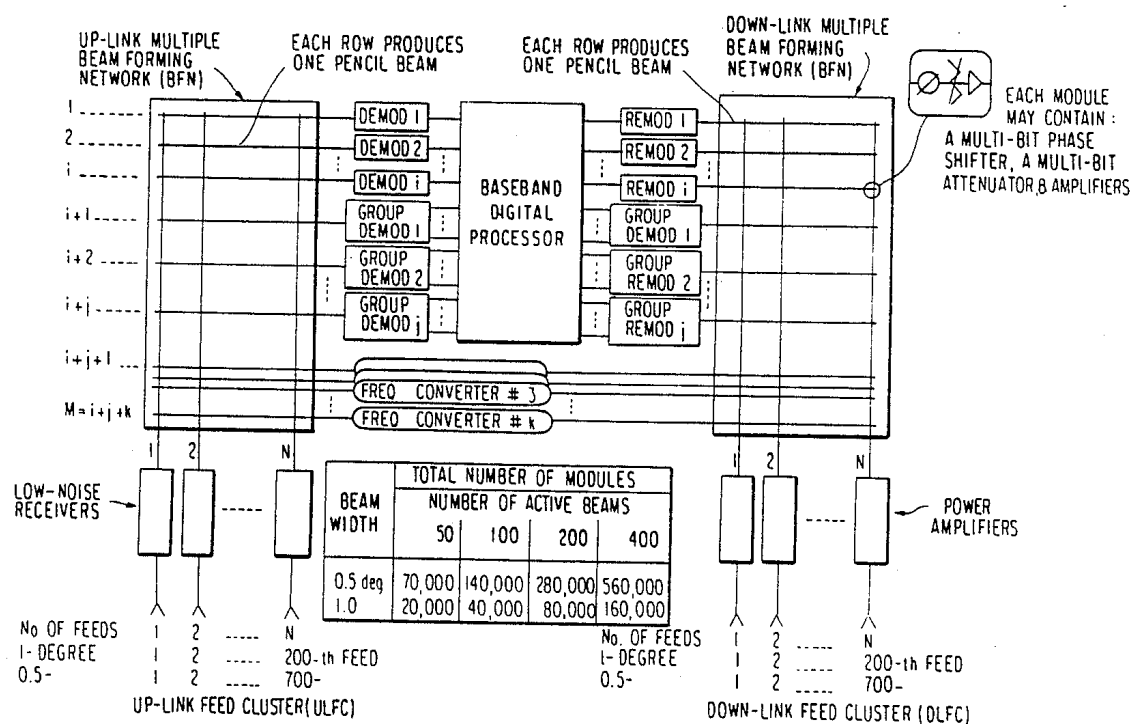
KOSTYA SANDOR

Family 37/44 - FAMPAT - ©Questel

Title

(US4931802)

Multiple spot-beam systems for satellite communications

Images**Publication data including kind & date**

US4931802

A 1990-06-05 US4931802

**Abstract**

(US4931802)

On-board satellite switching is performed in three stages, an outer stage of switching on the up-link side for routing the received signals to either demodulators or frequency translators, a first inner stage of switching, preferably a baseband switch and processor, for routing and processing the outputs of the demodulators, a second inner stage of switching, e.g., a microwave switch matrix, for routing the outputs of the frequency translators, and an outer stage on the down-link side for assembling and routing the down-link spot beams. For a multiple hopping-beam system, the outer stages are microwave switch matrices, and for a hybrid scanning-hopping system the outer stages are beam forming matrices. A general purpose modified rearrangeable switch matrix is also disclosed.

Inventors

ASSAL FRANCOIS T

EVANS JOHN V

MAHLE CHRISTOPH E

ZAGHLOUL AMIR I

GUPTA RAMESH K

Latest standardized assignees - inventors removed

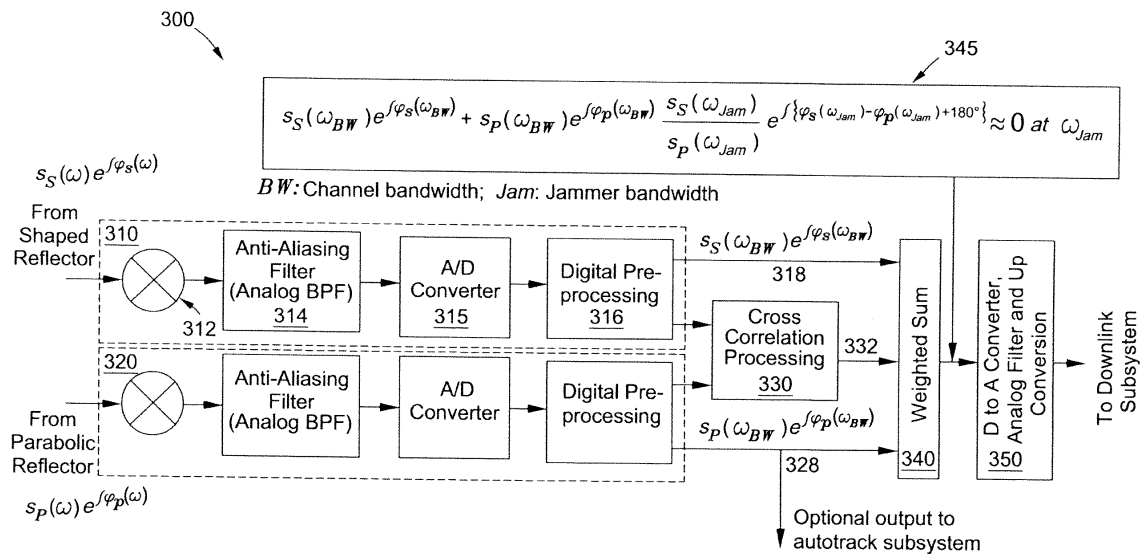
VIZADA

Family 38/44 - FAMPAT - ©Questel

Title

(EP3066770)

Receiver dual-reflector antenna system for interference suppression onboard satellite

Images**Publication data including kind & date**

US20150123843	A1	2015-05-07	US20150123843
WO2015069423	A1	2015-05-14	WO201569423
EP3066770	A1	2016-09-14	EP3066770
EP3066770	A4	2017-06-21	EP3066770

**Abstract**

(EP3066770)

A system for interference suppression onboard a satellite may include an antenna that is configured to receive uplink signals from a ground-coverage area and to generate a first signal. A spot-beam antenna may be configured to receive interference signals and to generate a second signal. A processor may be configured to receive the first signal from the antenna and the second signal from the spot-beam antenna and to perform a cross-correlation to generate a composite signal that includes a null at an interference frequency. The antenna may be a shaped reflector antenna and the spot-beam antenna may be a parabolic reflector antenna.

Inventors

LIER ERIK

HASAN MOH'D

JACOMB-HOOD ANTHONY WYKEHAM

BRAY MATTHEW GEORGE

BAKER RUSSELL T

Latest standardized assignees - inventors removed

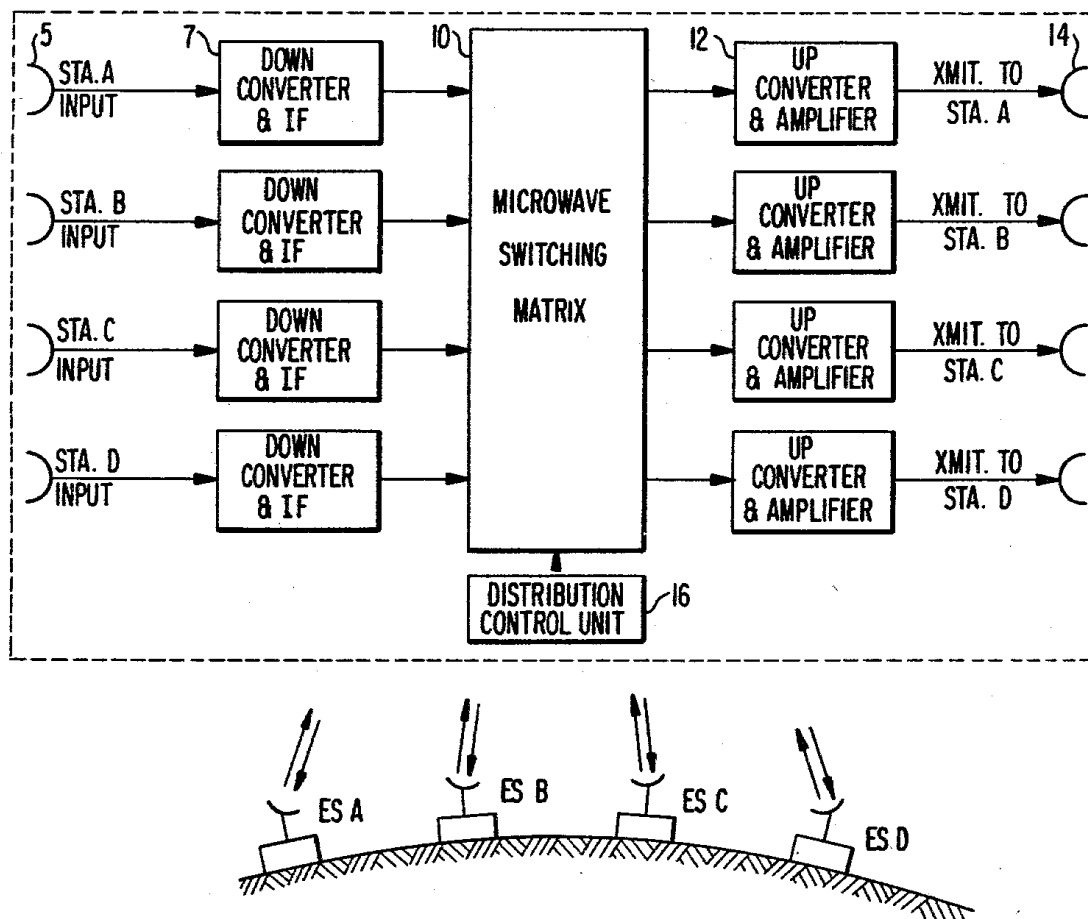
LOCKHEED MARTIN

Family 39/44 - FAMPAT - ©Questel

Title

(US4181886)

Distribution control unit providing simultaneous hybrid FDMA and SS-TDMA operation in a transitional satellite switched system

Images**Publication data including kind & date**

US4181886

A 1980-01-01 US4181886

**Abstract**

(US4181886)

An SS-TDMA satellite system providing uplink and downlink interconnections through an on-board microwave switching matrix controlled by an on-board distribution control unit responsive to ground command signals. The distribution control unit is configured to permit both point-to-point and point-to-multipoint interconnections of uplinks to downlinks through the switching matrix. Point-to-point interconnections under system static mode control may be effected simultaneously with point-to-point interconnections under system dynamic mode control.

Inventors

COOPERMAN RICHARD S

Latest standardized assignees - inventors removed

INTERNATIONAL TELECOMMUNICATIONS SATELLITE ORGANIZATION

COMSAT WASHINGTON DC

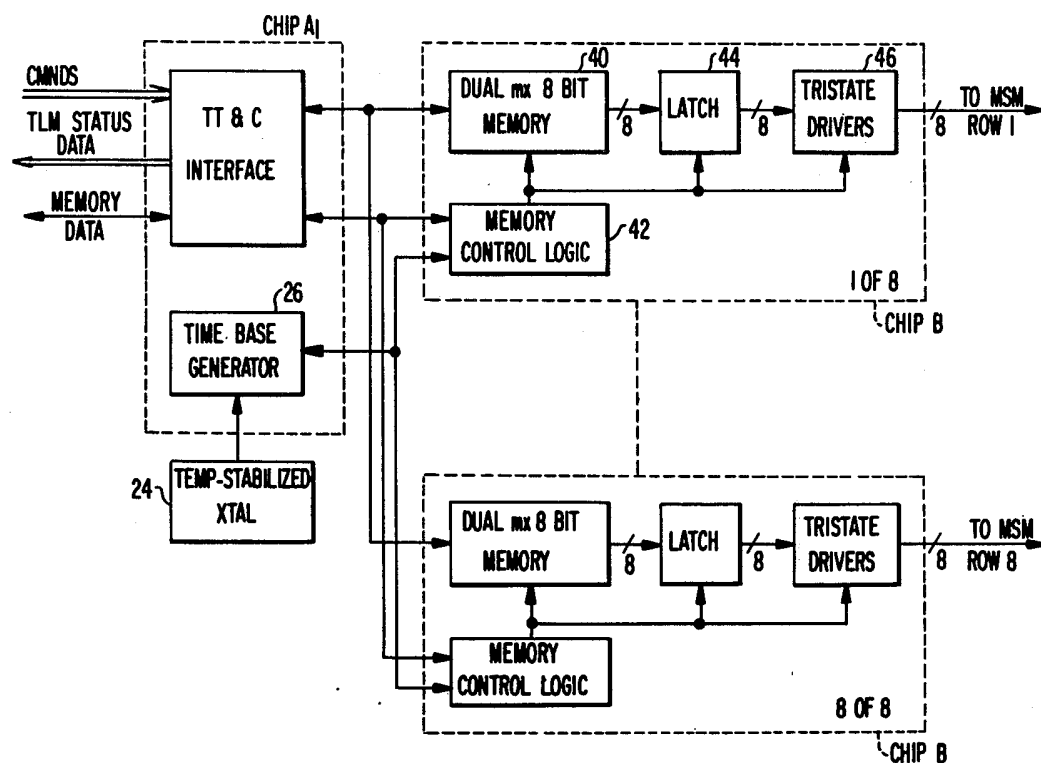
Family 40/44 - FAMPAT - ©Questel

Title

(US4150335)

Highly reliable distribution control unit with improved control capability

Images



Publication data including kind & date

US4150335

A 1979-04-17 US4150335



Abstract

(US4150335)

An SS-TDMA satellite system providing uplink and downlink interconnections through an on-board microwave switching matrix controlled by an on-board distribution control unit responsive to ground command signals. The distribution control unit is configured to permit both point-to-point and point-to-multipoint interconnections of uplinks to downlinks through the switching matrix with the satellite system operating in the dynamic TDMA mode.

Inventors

COOPERMAN RICHARD S

Latest standardized assignees - inventors removed

COMSAT - COMMUNICATIONS SATELLITE CORPORATION

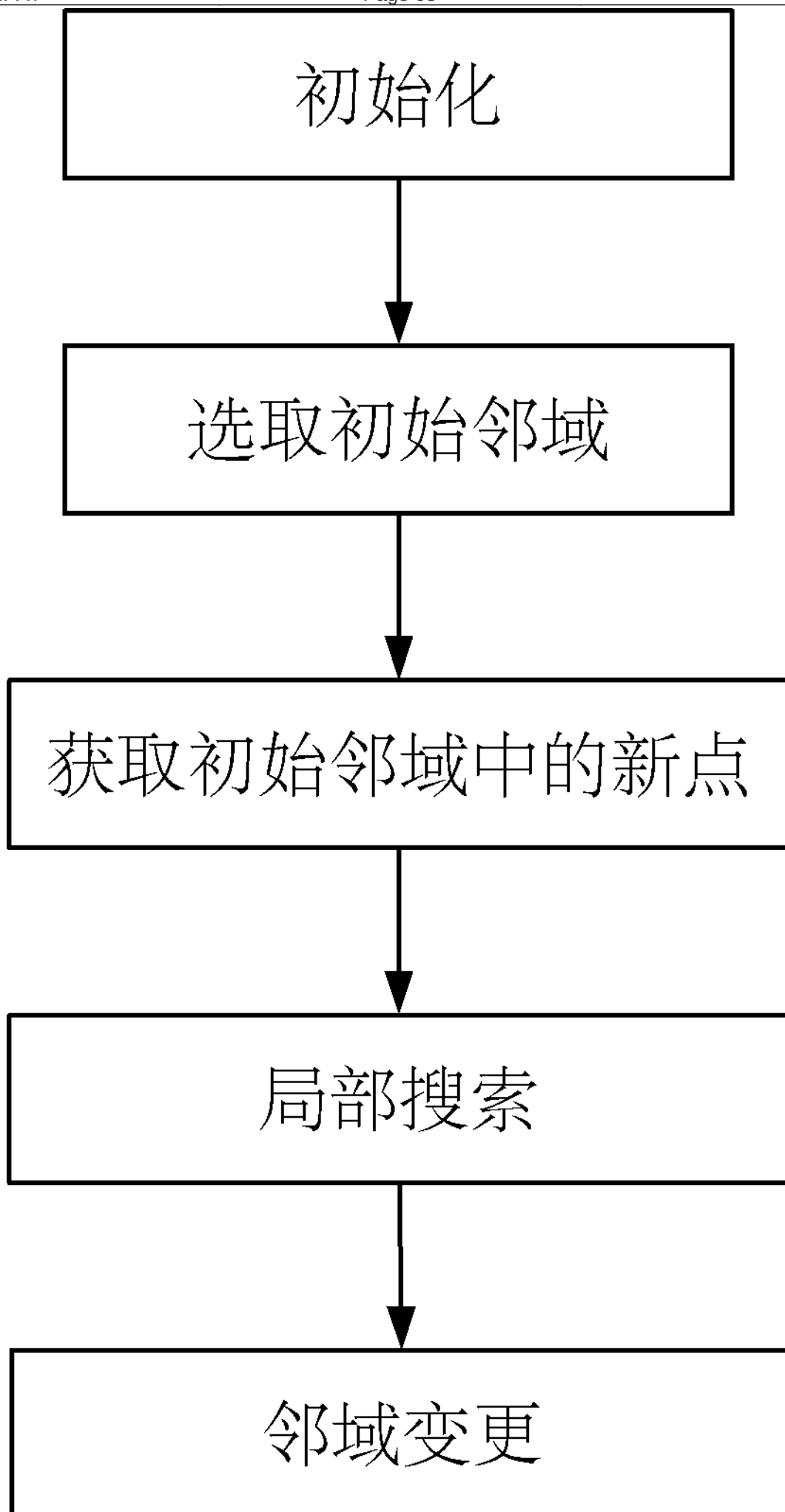
Family 41/44 - FAMPAT - ©Questel

Title

(CN102571187B)

Method for optimizing satellite communication link supportive system

Images



Publication data including kind & date

CN102571187	A	2012-07-11	CN102571187
CN102571187	B	2014-02-26	CN102571187B

**Abstract**

(CN102571187B)

The invention discloses a method for optimizing a satellite communication link supportive system, and belongs to the technical field of satellite communication. The method comprises the following steps of: performing initiation, then selecting initial neighborhoods, acquiring new points in the initial neighborhoods, performing partial search, and performing neighborhood change. According to the method for optimizing the satellite communication link supportive system, the problem about coexistence of large carriers and small carriers in a multi-carrier satellite communication system is solved, so that the capacity of the satellite communication system and the power utilization rate of a transponder are improved; and for a design of the satellite communication system, a great theoretical instruction significance and engineering practical value are realized.

Inventors

LIU HONGYING

YANG ZHIMING

Latest standardized assignees - inventors removed

BEIHANG UNIVERSITY OF AERONAUTICS & ASTRONAUTICS

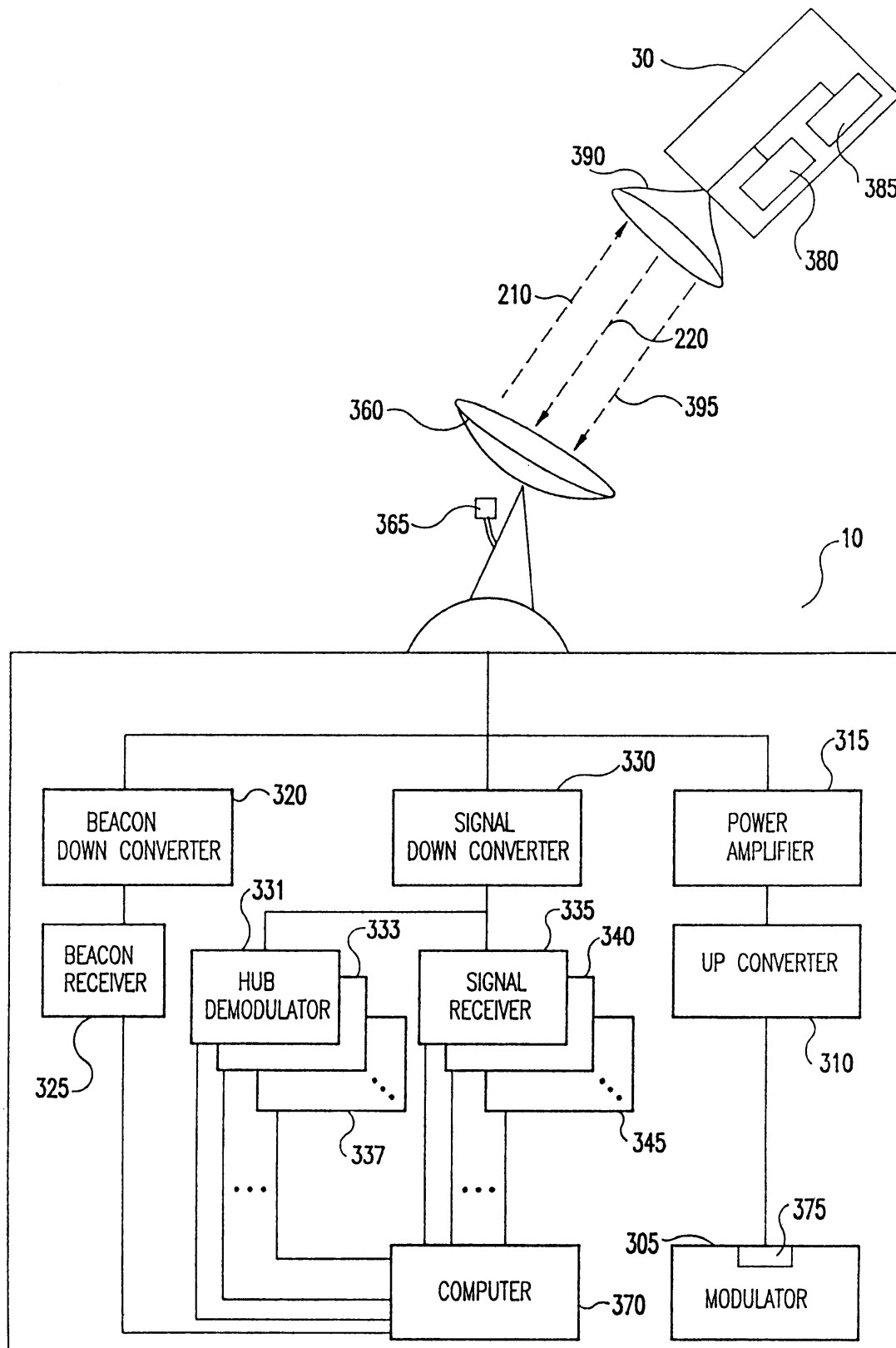
Family 42/44 - FAMPAT - ©Questel

Title

(EP-909487)

Methods and apparatus for controlling earth-station transmitted power in a vsat network

Images



Publication data including kind & date

WO9845964	A1	1998-10-15	WO9845964
EP0909487	A1	1999-04-21	EP-909487
CN1223039	A	1999-07-14	CN1223039
IL127336	A	1999-10-28	IL-127336
BR9804823	A	2000-01-25	BR9804823
BRPI9804823	A1	2000-01-25	BRPI9804823
JP2000512830	A	2000-09-26	JP2000512830



US6212360	B1	2001-04-03	US6212360				
IL127336	B	2002-12-01	IL-127336				
CN1126291	C	2003-10-29	CN1126291C				
IN0932/DEL/1998	A	2008-07-25	IN1998DE00932				
IN230103	B	2009-03-13	IN-230103				

Abstract

(EP-909487)

A method is shown for providing stable communication between a hub earth-station and a VSAT earth-station by regulating the power of signals transmitted via a satellite. In this method, the hub receives a beacon signal from the satellite and a previous outbound signal. The hub then regulates the power of an outbound signal transmitted by the hub to VSAT via the satellite, based on either the beacon signal or the previous outbound signal. The hub then sends a current outbound signal, including signal data and parameter data to the VSAT via the satellite. The VSAT receives the current outbound signal and determines a number of signal properties pertaining to the current outbound signal. The VSAT then regulates the power of an inbound signal transmitted by the VSAT to the hub via the satellite, based on the signal properties, the parameter data, and a set of reference data.

Inventors

FLEMING ROBERT FLEMING III

CHECK WILLIAM ALAN

CHISHOLM JOSEPH A

GLINSMAN BRIAN JAMES

KIM DAVID B

KRONZ RONALD L

Latest standardized assignees - inventors removed

GILAT SATELLITE NETWORKS

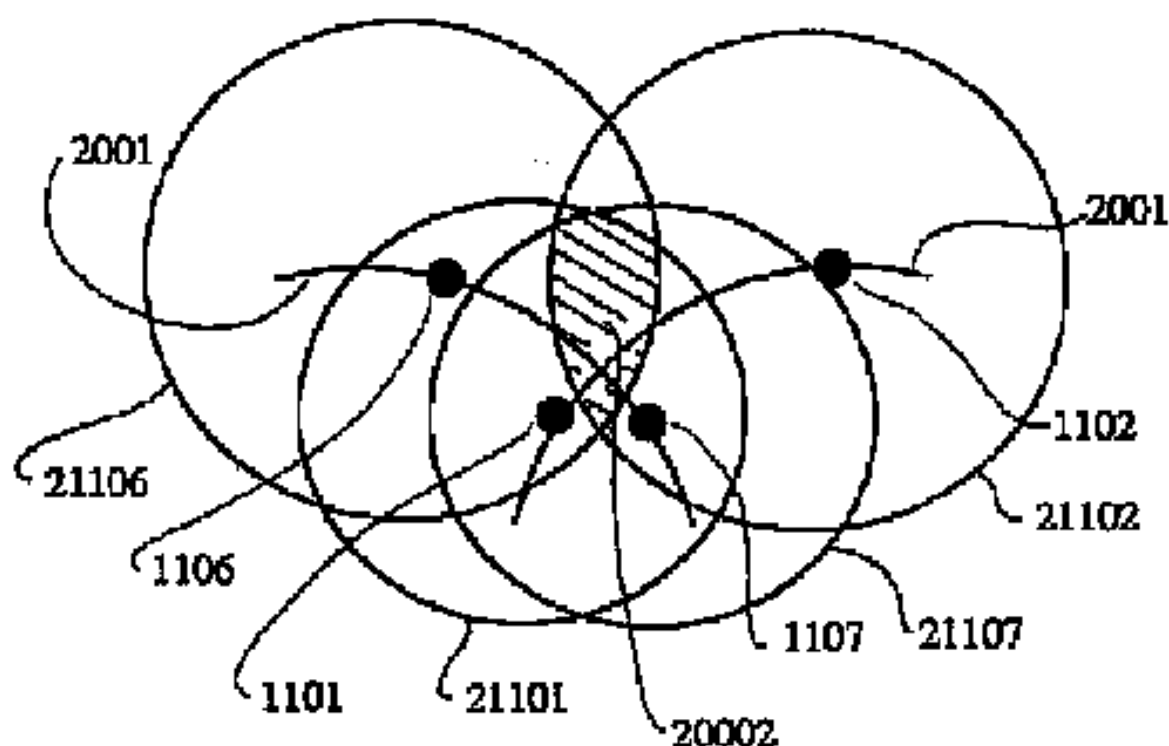
Family 43/44 - FAMPAT - ©Questel

Title

(JP08331033)

Setting method for satellite and ground communication channel and position decision and registration method for mobile station

Images



Publication data including kind & date

[JPH08331033](#)

A 1996-12-13 JP08331033



Abstract

(JP08331033)

PURPOSE: To obtain the satellite and ground communication channel in which an overall operating rate of communication channels is improved by installing an earth station with an elevating angle higher than an elevating angle of an earth station with respect to a stationary orbit communication satellite and with an azimuth angle in multi-directions. **CONSTITUTION:** When a relative speed of positions 1101, 1102, 1106, 1107 at each hour being just under four communication satellites on a communication satellite orbit 2001 around each apogee with respect to a ground surface gets smaller, the just under positions of each communication satellite are close to each other. Thus, areas 21101, 21102, 21106, 21107 satisfying a

relation of elevating angle $E1 \geq 45$ deg. of an earth station with respect to the points 1101-1107 have an area 20002 overlapped respectively at the same time. Then all earth stations in the area 20002 set a satellite communication channel securing the relation of elevating angle $E1 \geq 45$ deg. for a prescribed time at the same time to the four communication satellites. Thus, when 48 satellites are arranged on a same orbit at the same time, all the earth stations in the area 20002 set a satellite communication channel for four communication satellites connected before and after so as to keep the relation of elevating angle $E1 \geq 45$ deg. for 24 hours.

Inventors

ISO AKIO

Latest standardized assignees - inventors removed

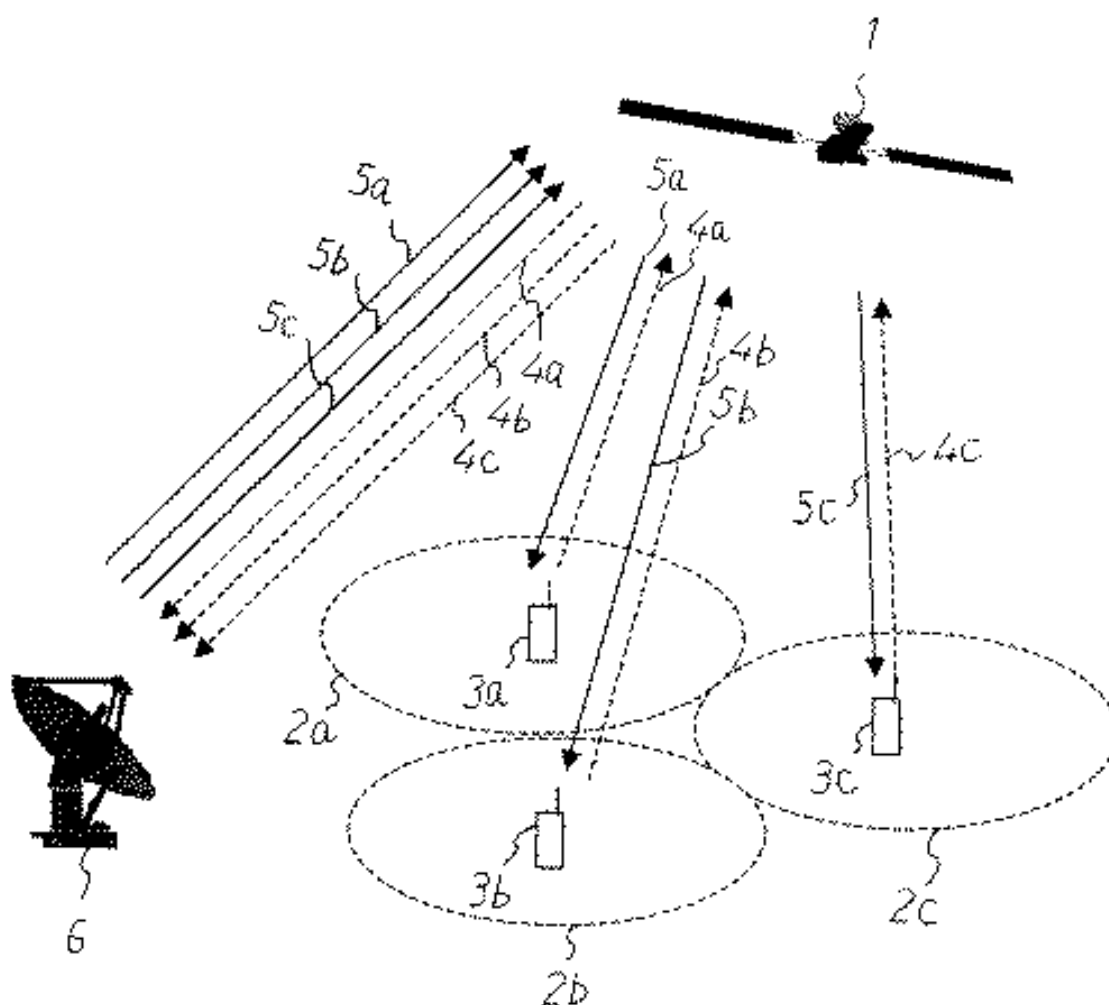
MITSUBISHI ELECTRIC

Family 44/44 - FAMPAT - ©Questel

Title

(JP2005295090)

Satellite communication system and apparatus

Images

Abstract

(JP2005295090)

PROBLEM TO BE SOLVED: To suppress an effect of the congestion of a CSC line in the specific region of a service area of satellite communication exerted on transmission/reception by the CSC line in the other region of the same service area.

SOLUTION: A service area of a single beam from a communication satellite is divided into a plurality of sub-areas and at least two out of the plurality of sub-areas are formed, individually, with up-link and/or down-link CSC lines of different feature values. A slave station comprises a means for detecting its own position, and a means for determining feature values of the up-link and/or down-link CSC lines at that position based on detection results from the means for detecting its own position.

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Inventors

ISHII KATSUYUKI

Latest standardized assignees - inventors removed

MITSUBISHI ELECTRIC