

MSAT

Tom.Christensen

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WRITTEN BY	Tom.Christensen	February 24, 2025	

REVISION HISTORY

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Chapter 1

MSAT

1.1 main

MSAT Satellite Guide

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Issue 3 (Release date 25.02.97)

General Information

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- How to CONTACT Me
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- Editorial - MSAT Editor ↩ speaks out.
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Satellite Menu

- Satellite listings
- List of coming Launches in 97/98 ↩
- Satellit News
- Adresses to Tv companies (e-mail & WWW) ↩

1.2 launch

Launches

```

=====
DATE:   SATELITT:   LAUNCHER: LOC:   BAND:   INTERNAL:
=====

Recently launched, but not yet officially in service
    Measat 2
    (Malaysia)
                                G P Calzolari
                                148\textdegree{}E 8/9 Ku and 6 C tps D Lee
                                The TVRO
961113    Ariane
          V92    12 Ku and 22 C tps, Source
    Arabsat 2B
    Marzooqi    30,5\textdegree{}E identical to    A ↔
                                Arabsat 2A
                                H Room
                                961114

Scheduled launches, all times UTC
                                S band tps, to be
9701/05Indostar 1    US/Ariane 107,7\textdegree{}Elaunched by US in T ↔
    Soepriyanto
    (Indonesia)
                                9701 or with
                                Ariane in 9705
                                961119
                                The TVRO
9701    Apstar 2R    Long March
                                18 Ku tps, will
                                replace both
                                Nahuelsat C1 and
                                .
                                Source
                                961125
970128    Ariane V94    C2
                                The TVRO
                                GE 2 (US)
                                85\textdegree{}W 24 Ku tps, will
                                replace Satcom K2
                                Source
                                961125
                                The TVRO
970131 JCSAT 4 (Japan) Atlas    .    .
                                Source
                                961023
                                The TVRO
9702    Mabuhay 1    Long March 144\textdegree{}E 12 Ku and 30 C tps Source
    (Philippines)
                                961002
                                The TVRO
9702    Intelsat 801    Ariane V95 174\textdegree{}E .
                                Source
                                960915
9702    Hot Bird 3    US    13\textdegree{}E 20 tps in
    Perrier
                                12,100-12,500 GHz
                                960516
                                The TVRO
97Q1    Dongfanghong 3    Long March    .    24 C tps
    (China)
                                Source
                                961214
970222 Thor 2A
    (Norway)    Delta    1\textdegree{}W 15 tps
                                Edgar
                                960729

```


970227	Tempo 2 (Loral)	Atlas	91\textdegree{}W or 11 Ku tps 119\textdegree{}W	The TVRO 961023 The TVRO	Source
9702/03	Tempo 1 (Loral)	Proton	82\textdegree{}W? 11 Ku tps	961213 The TVRO	Source
9703	Thaicom 3	Ariane V96	. 25 C and 15 Ku tps	961002 The TVRO	Source
9704	PAS 6	Ariane	43\textdegree{}W 36 Ku tps	961125 The TVRO	Source
9705	Intelsat 802	Ariane V98	177\textdegree{}E .	961002	Source
9705	Telstar 5	Atlas	20 C tps, 28 Ku tps 93\textdegree{}W expected footprints: C 961105 band, Ku band 16 tps in	D Slaton	
9706	Astra 1G Zeissler	Proton	19,2\textdegree{}E 12,500-12,750 GHz, H ↔ digital use, plus 960609 backup		
9706	Superbird C Shimoyama (Japan)	Atlas	144\textdegree{}E	961025	T ↔
97	Gorizont 33	Proton	. last Gorizont	J-Y Perrier 960607 The TVRO	
9707	PAS 5	Proton	58\textdegree{}W	961002	Source
9707	Sirius 2 Strömberg (Sweden)	Ariane	5\textdegree{}E 11,700-12,500 GHz, N ↔ horizontal North/Central European: 6 tps in 12,500-12,750 GHz more info from GE Americom	960816	
9708	Intelsat 803	Ariane V99	64\textdegree{}E	The TVRO 961002	Source
9708	Astra 2A Zeissler	Ariane	28,2\textdegree{}E 11,700-12,500 GHz, H ↔		

				(14 tps for BSkyB)	960609	
9708	Galaxy 8I	Atlas	.		The TVRO	
					Source	
					961012	
9709	Echostar 3	Atlas			The TVRO	
					Source	
					960828	
9709	Chinastar 1 (China)	Long March	.	24 Ku and 24 C tps, also called	The TVRO	
					Source	
				Zhongwei I	961002	
					The TVRO	
9709	Sinosat	Long March	.	14 Ku and 24 C tps	Source	
					961113	
					The TVRO	
9709	Globalstar 1 (Russia)	Delta	.		Source	
					961015	
97Q3/Q4GALS R12		Proton	.	16 (or 27) Ku tps possible	P Andersson	
				locations: 35\textdegree{E},	960925	
				44\textdegree{E} or 71\textdegree{E}		
				13 tps in		
					The TVRO	
9710	Hot Bird 4	Ariane	13\textdegree{E}	10,700–10,950 GHz,	Source	
				7 tps in		
				12,600–12,750 GHz	961009	
					The TVRO	
9710	Insat 2E (India)	Proton	.	.	Source	
					961009	
					The TVRO	
9710	Globalstar 2 (Russia)	Delta	.		Source	
					961015	
					The TVRO	
9711	Intelsat 804	Ariane	21,5\textdegree{W}	.		Source
					961105	
					The TVRO	
9711?	Insat 2D (India)	Ariane	.	.	Source	
					960915	
					The TVRO	
9711a	fteJCSAT 5 (Japan)	Ariane	150\textdegree{E}	32 Ku tps		Source
					960915	
				12 tps in		
97end	Nilesat 1	Ariane	7,0\textdegree{W}	11,700–12.500 GHz, H Room		
				only MPEG-2,	961130	
				footprint		
97late	PAS 7 Perrier	Ariane	68,5\textdegree{E}	.		J-Y ↔
					960516	
					The TVRO	
9803	Intelsat 806	Atlas	40,5\textdegree{W}			Source
					961105	
					The TVRO	

9807	Intelsat 805	Atlas	110,5\textdegree{}E.	961105 The TVRO	Source
98	Orion 2	Atlas	12\textdegree{}W	961002 The TVRO	Source
98	Galaxy 10	.	. 24 Ku and 24 C tps	Source 961002	

1.3 copy

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1.4 sat-news

SATELLIT NEWS (01.08.96 - 25.02.97)

Ariane V47

Ariane Bank

Inmarsat Launch

Express 6 Launch

New U.S Spy Satellit

Digital Problems Germany

Digital Problems USA

Japan Goes for DSTV

MD TV (latest)

No sex please we are british

Premiere breaks even

1.5 dstv-jp

Japan goes digital

Japan's first digital TV package started on JCSAT 3 (128°E) today, initially offering a bundle of 60 TV and radio channels. Future plans call for an increase to 170 channels.

More than 35,000 decoders for the service called PerfectTV have already been sold. Perfect TV Corporation said it expects 300,000 subscribers by the end of the year and over a million within the next three years. The price for the reception equipment (decoder and satellite dish) reportedly is about 50,000 (US\$450.)

The company recently doubled its capital to ¥50 billion (US\$455 million) by issuing new shares to a total of 28 companies, 23 of them new investors such as Toyota Motor, Sony and Nippon Telegraph and Telephone Corp.

The next digital venture is already close at hand. Rupert Murdoch will launch his JSkyB service next June, co-operating with the domestic software wholesaler Softbank Corp. while at the same time buying 21.4 percent of the Japanese Asahi TV network. Other companies have announced digital satellite TV services as well.

<http://www.perfectv.co.jp/> (all Japanese)

<http://www.asahi.co.jp/abcHomeE.html> (Asahi's English pages. Nice cooking recipes and always the "Newest Information from the Himawari V. [weather] Satellite.")

1.6 prem

premiere breaks even

Germany's one and only analogue pay-TV channel premiere has announced it will break even this year following a 30 percent surge in revenues. Next year, profits are expected to surpass the DM10-million mark even though further investments of some DM100 million are planned.

Recently, premiere recorded more than 100,000 new subscribers within a period of six weeks. It is of course by no means unusual that such services attract many subscribers during the Christmas season. And even though premiere's subscriber base now is at an all-time high of 1.4 million, it still is just a negligible percentage of Germany's 32.7 million TV households.

1.7 spy

Openness -- without telling secrets

For the first time, the USA today officially announced the launch of a spy satellite. The National Reconnaissance Office (NRO,) which is in charge of spy satellite operations, has acknowledged that a Titan IV booster rocket will lift off from Vandenberg Air Force Base with a reconnaissance spacecraft on board next Friday. The launch window will be open between 11:30 A.M. EST (1630 UTC) and 1:00 P.M. EST (1800 UTC).

And that was all the Office, which by the way was top secret itself until 1992, was prepared to say. Except that those satellite launches weren't really secret, of course, because the blast-off of any rocket was unlikely

to go unnoticed. Usually, the U.S. Air Force wouldn't comment on those unannounced launches "on the grounds of national security," so that everybody could be sure it was indeed a spy satellite that went up. So, nothing new really, expect for the fact that those interested in satellite launches will now know one day earlier that they will be told nothing.

1.8 sex-1

British government considers sex harmful

Once again, the British government has effectively banned a hard-core satellite TV channel. French Rendez-Vous Télévision, broadcasting on EUTELSAT II-F3 (16°E) at 10.987 GHz, may no longer sell viewing cards in Britain.

Speaking at the Tory Party conference in Bournemouth, National Heritage Secretary Virginia Bottomley today declared she would "not tolerate gratuitous violence and filth on television." Rendez-Vous is the third porn-channel banned in the UK, following similar measures against Red Hot TV in 1993 and TV Erotica in 1995.

The opposition Labour Party obviously does not object to the government's move. Their shadow national heritage secretary Dr Jack Cunningham pledged a Labour government would tackle pornography on TV. "A Labour government will definitely act to prevent it."

Rendez-Vous' Roger Kingsbourg accused the government of treating TV viewers like children, pointing out that "We do not show unnatural situations and we have a strict policy of only showing adult sex. And we are not in the business of broadcasting programmes to minors."

British viewers will be able to use their current smart cards until they expire. After that, there will certainly be other ways of getting hold of one - it will probably just cost a bit more. In addition to that, Britain has no legal means to ban unscrambled trailers broadcast by Rendez-Vous and other porn channels. Usually, these 15-minute trailers are shown before the scrambled programmes start.

1.9 md-tv

Search warrant against Med-TV

One again, Kurdish Med TV disappeared yesterday -- this time from its new transponder on INTELSAT 705 (18°W.) The last time the channel vanished it did so because of uplink problems. This time, the nature of the interruption seems to be of a more severe nature.

As MSAT satellite's Dr. Dish reported today, police and tax office agencies searched the station's headquarters in Denderleeuw/Belgium on Wednesday.

MED-TV is accused of maintaining connections with the Kurdish PKK and of acting as a money-laundry to clean up drug-traffickers money.

During a similar raid last year, BFr350 million (US\$10 million) were found. The station, which utilises a British satellite TV license to reach its audience, is said to be financed mainly by Kurdish businessmen

living in Belgium. Nothing is known about the future of MED-TV at this time.

1.10 express

EKSPRESS 6 at 80°E

Thanks to Hornedo Rodriguez Gonzalez, Marketing Manager of Intersputnik, here are some details on the latest EKSPRESS satellite launched on September 26.

"Intersputnik, the Moscow based International Organisation of Space Communications, has been authorised by Russian Space Organisations to operate the main capacity of EKSPRESS 6.

"EKSPRESS is a new generation of satellites designed to replace the GORIZONT satellites. The payload consists of twelve active transponders: One C-band (6/4 GHz) transponder of 40 MHz, nine C-band (6/4 GHz) transponders of 36 MHz and two Ku-band (14/11GHz) transponders of 36 MHz. The maximum EIRP of C-band transponders will be in the range of 38.0-48.0 dBW and for Ku-band 42.0 dBW.

"EKSPRESS 6 will be deployed at 80°E to replace GORIZONT 24. It will ensure

coverage of the Eastern European continent, Northern Africa, Middle East, Eurasia, the Indian subcontinent and South Eastern Asia. As soon as in-orbit tests are over and the satellite becomes operational later this year, Intersputnik will start reconnecting its existing and new clients to EKSPRESS 6 according to received booking requests."

Interestingly, NASA has recently given the name of the satellite as

"EKSPRESS 12," so don't get confused. Anyway, EKSPRESS 6 (NORAD number: 24435) is already geostationary at 80°E, according to NORAD data from October 8.

1.11 digi-prob-1

Good bye, digital TV

Digital television in Germany is over before it had really begun. Today, two of the major players announced independently to abandon their current plans for digital TV packages.

Media company Bertelsmann said it has put its digital TV project Club RTL on halt while at the same time considering to leave the Multimedia Betriebsgesellschaft (MMBG.) This alliance of telecommunications companies and broadcasters already suffered a heavy blow last Monday when Deutsche Telekom declared it would leave the consortium and offer its own conditional access system instead (Sat-ND, 16.9.96.)

Bertelsmann board member Thomas Middelhoff called the prospects of digital TV "hopelessly overestimated," adding that his company won't spent billions of Marks that can't be earned back before ten year's time. Club RTL may still be launched, but not as planned before at end of the year. According to Middelhoff, Bertelsmann will wait until the market is ready for another digital package to compete with Leo Kirch's DF1.

Other companies seem to have come to the conclusion that the German market with its dozens of free channels will never be ready for pay-TV on a broad basis. Pro Sieben, ranging number three of the most popular

(free) channels, has entirely sacked its seven-channel package which was due to be launched on November, 16. "After thoroughly examining the market, we came to the conclusion that there's no business for us here," admitted Georg Kofler, director of the board. He said the company would still continue its plans to offer digital transmissions for business and corporate TV.

Ironically, Pro Sieben is not a member of the ill-fated MMBG but instead of the Kirch family's media empire. As such, it had planned to use Kirch's d-box for its package. Insiders already claim Kirch is thankful for every decoder he does not sell in Germany as the boxes are heavily subsidised.

1.12 digi-prob-2

Digital problems in USA

Even in the USA, where digital TV seems to develop more successful, first doubts have surfaced. Continental Cablevision Inc. may sell its stake in Primestar Partners, a cable operator-backed direct broadcast satellite venture.

Continental president/CEO William Schleyer isn't at all sure that Direct Satellite Broadcasting "is a great business going forward." Referring to the latest reductions in set-top box prices and special offers, he added "These guys are killing each other with price. So, what kind of business is it going forward?"

1.13 ariane-1

SKYNET stays with Arianespace

Arianespace will launch the military SKYNET 4F for the British Ministry of Defence. A contract signed today by Arianespace and the satellite's constructor, Matra Marconi Space, calls for a lift in the second half of 1999.

Skynet 4F is the last in a series of six British military communications satellites. Built by Matra Marconi Space in the United Kingdom, it will weigh approximately 1,500 kg (3,300 lb.) at launch and will offer 1.5 kW of power. Design life is seven years. SKYNET 4F will provide government communications links for various land, sea and airborne terminals.

Following the launch of SKYNET 4B (53°E) in December 1988 and SKYNET 4C

(1°W) in August 1990, Arianespace plans to launch Skynet 4E and 4F in 1998

and 1999, respectively.

It is the third launch booked by Matra Marconi this year following similar turnkey contracts with Singapore Telecom/Chunghwa Telecom (Taiwan) and the Egyptian Radio and Television (ERTU.)

With this launch contract, the 17th of the Year, Arianespace now has 42 satellites on order to be launched.

Arianespace is the world leader in the provision of commercial space transportation services. Matra Marconi Space is a joint venture between

Lagardere Groupe SA of France and General Electric PLC of the UK.

1.14 ariane-2

Ariane sets up satellite bank (well, kind of)

In case you have a satellite but no money go get it up where you want it, you might as well go ask Arianespace for a credit. It doesn't quite work out that way, but a newly created Luxembourg-based subsidiary, Arianespace Finance, will provide up to US\$400 million in loans to Arianespace customers, allowing simultaneous financing for eight to ten customers. Financing will be provided for three to ten years after the satellite launch.

Arianespace today said in a press release that "the loans are principally for customers who do not yet have access to bank financing because their projects are new and because they wish to finance their projects based on revenues generated by the satellite.

"These loans will be refinanced by a group of banks led by Credit Lyonnais (France), The Chase Manhattan Bank (USA), Kreditanstalt für Wiederaufbau (Germany) and ING Lease and Structured Finance (The Netherlands). These banks will also assume a portion of the risk after launch." [What risk? -- Ed.]

1.15 inmarsat-1

Another INMARSAT launched

An Atlas IIA rocket this morning successfully launched the third of the new-generation Inmarsat mobile communications satellites into geosynchronous transfer orbit from Cape Canaveral Air Station. Inmarsat-3 F3 follows the successful launches of F1 and F2 aboard an Atlas from Cape Canaveral in April and the Russian Proton from Baikonur in September. It was the 27th consecutive successful Atlas launch from CCAS and the seventh and final Atlas launch of 1996.

Inmarsat-3 F3 was built by Lockheed Martin, which is responsible for overall spacecraft design, manufacturing, assembly and testing. Matra Marconi Space provided the communications payload onboard the satellite. Once in final orbit, Inmarsat-3 F3 will provide global mobile communications services on land, at sea and in the air. It will extend the availability of the Inmarsat-phone service to almost all of the world's land areas.

The Atlas IIA is one of four variants in the Atlas family presently launching satellites for domestic and international customers. The Atlas II series, consisting of the II, IIA and IIAS, has compiled a perfect record with 100 percent mission success of each configuration starting with the Atlas II introduction in 1991, the Atlas IIA in 1992 and the Atlas IIAS in 1993. The Atlas family is capable of launching satellites weighing from 2,268 to 3,696 kg (5,000 to 8,150 lbs). The new Atlas IIAR, which will begin launching in 1998, expands that performance capability to 4,037 kg (8,900 lbs).

1.16 welcome

You may wanna ask. "What in THE hell is MSAT". ?

MSAT GUIDE is for all Amiga users who also (luve) satellite television.

You will find a new MSAT.***.Guide (*** = month) every month.

Where you can read about:

- * Latest Rumors
- * News
- * Latest Ariane Launches
- * Updated satellite listing froms Europe and South & North America

But read on and i hope you enjoy my work sofare. If you like this guide then please send me some mail (e-mail or snail mail you will find me addresses in Support) and let me know what you think of MSAT.GUIDE so that i can improve on it.

MSAT Editor.

1.17 adr

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C-Span - cspanguest@aol.com
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Paramount uk - feedback@bigpoint.com
TNT - turner@turner.com

WWW

ABC - <http://www.abc.com>
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BT Goonhilly - <http://>
Bravo - <http://www.uaep.co.uk.bravo.html>
BSKYB - <http://www.sky.co.uk>
CBC - <http://www.cbc.ca/>
CBS - <http://www.cbs.com>

Channel One - <http://www.channelone-onetv.co.uk/digital>
Channel 4 - <http://www.channel4.com>
Cnn - <http://www.cnn.com>
David Letterman Late show - <http://www.cbs.com:80/lateshow/ttlist.html>
Ebn - <http://www.ebn.co.uk>
Eurotica - <http://www.inrete.it/sat/eurotica.html>
Espn - <http://espnet.sportszone.com>
Intelsat - <http://www.intelsat.int.8088>
Jay Leno - <http://www.nbctonightshow.com>
MGM - <http://www.mgmua.com>
Mtv Usa - <http://mtv.com>
Nrk - <http://nrk.hiof.no/>
Pbs - <http://www.pbs.com>
Qvc - <http://www.qvc.com/>
Rtl 2 - <http://www.rtl2.de/>
Rtl Tv - <http://www.rtl.de>
Rtp Int - <http://www.rtp.pt/rtpinternacional>
Sat 1 - <http://www.sat1.de>
SBS6 - <http://www.cameo.nl/sbs6/default.html>
SES - <http://www.astra.lu>
Sci-Fi Channel - <http://www.scifi.com>
Tv Norge - <http://www.tvnorge.no>
Tv 5 Canada - <http://www.tv5.ca>
Universal - <http://www.pictures.com>
Vh-1 Usa - <http://here.viacom.com/vh1/index.html>

1.18 support-msat

MSAT SUPPORT

How can you help me with next issue of MSAT GUIDE. ?

I'am trying to setup MSAT-TEAMS around the world that can help me with future editions of msat guide that means.

- Write a rapport of the changes the last month to be included in upcoming "montly" guides.
- Edit satellit listings in your zone.

So i'am looking for MSAT-TEAM in the following zones around the world.

- North America (USA)
 - California
 - New York
 - Texas

- South America (Brazil or Argentina)
- Japan
- Australia

So if you are intrested in joining me then pleas contact me via e-mail or use my snail mail addresse.

To ALL MSAT Readers who D O not contribut in ANY way!!

Hope you do like what you are reading so far. ??

If you do like my work then i hope you can send me (any of the following):

- * Postcard from where you live (just to findout where my readers/users are.
- * CASH, just keep those Kr,dollars,pund coming.

1.19 contact-author

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1.20 editor

Editorial MSAT ISSUE 2

Welcome to ISSUE 3 of MSAT GUIDE.

Finally your favourite satellite guide is BACK after your EDITOR (ME) have taken a well deserved rest!!.

But now i'am back.

There has been alot (thank god) going on in the world of satellite television and our favourite launcher "Ariane Espace" have got it's cargo where we all want it, in space.

Sky Television or as they are know over her BSKYB have launched 14 new channels or they have started 3-4 you can thank Granada television for the rest. :-(

In Germany Kirch has started "DF1" :) yes it's that same name as our external disk drive but this is that name of the digital package. So this is one of the digital services that has started for our german friends.

Canal + (france) has also started it's digital service. The british satellite magazine " had a review of the D-BOX they will use and as the bris said - " when digital television crashes it does that in a BIG way"

No i will leavy you for now, but will be back with a new guide in feb/mar 97.

- * To those of you who will not miss any MSAT SATLLITE GUIDE pleas read Support. I have now a service for those of you who will want to subscribe to MSAT GUIDE.

EVERYONE WHO READS THIS GUIDE PLEAS READ "MSAT SUPPORT"

1.21 cre

Credits

--->> Jan-Tore Eliassen Thank you very much for
 helping me out with MSAT.ICON.

--->> Mark Peacock Thanks alot for sending this gigantic North america
 satellite list, thanks alot.

1.22 satellite

Satellite Main Menu

ArabSat	4 Ghz	
Anik	4 Ghz	USA/Canada
Astra	10,11,12 Ghz	
Dbs	11,12 Ghz	
Echostar	11 Ghz	USA
Eutelsat	4,11,12 Ghz	
Gorizont	4,11 Ghz	
Galaxy	4 Ghz	USA
IntelSat	4,11 Ghz	
Kopernicus	11,12 Ghz	
Orion	4,11 Ghz	
Pan Am Sat	4,11 Ghz	
SatCom	4,11 Ghz	USA
Solidaridad	4 Ghz	USA/Cuba
Tv Direct	11 Ghz	USA
TeleCom	4,8,12 Ghz	
Telstar	4,11, Ghz	USA

1.23 arab-index

A R A B S A T I N D E X
- - - - - - - - - -

ArabSat 1D R	4 Ghz
ArabSat 1C	

1.24 arab1d

20 East ARABSAT 1D-R				Dish size: 4 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	3.740	RC	SRT Syria	PAL			Arabic	6.60-	2
T	3.780	RC	AR TV1	PAL			Arabic	6.60-	3
T	3.816	RC		PAL			Arabic	6.60-	4
T	3.860	RC	AR TV2	PAL			Arabic	6.60-	7
T	3.940	RC	AR TV3/5	PAL			Arabic	6.60-	11
T	3.977	RC	Sudan TV	PAL			French	6.60-	
T	4.020	RC	AR TV4	PAL			Arabic	6.60-	15
T	4.064	RC	Orbit Info	MPEG		yes	Arabic	DIGITAL	17
T	4.064	RC	Orbit Al Qula	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	Orbit AL Thania	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	Orbit News	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	Super Movie Channel	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	BBC World Arabic	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	Orbit Sports	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	Music Now	MPEG		yes	English	DIGITAL	
T	4.064	RC	The Hollywood Channel	MPEG		yes	English	DIGITAL	
T	4.064	RC	ERTU 1/2	MPEG		yes	Arabic	DIGITAL	
T	4.064	RC	Discovery Channel	MPEG		yes	English	DIGITAL	
T	4.064	RC	Orbit	PAL			Arabic	6.60-	23

1.25 arabsat-1c

30.5 East ARABSAT 1C				Dish size: 4 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	3.772	RC	Feeds						4
R	3.772	RC	Radio Orient				Arabic	SPSC	
T	3.811	LC	Canal France International	PAL			French	6.60j	9
T	3.829	RC	CNN	PAL			English	6.65	7
R	"	"	CNN Radio				English	6.30s	
T	3.867	RC	Feeds						
T	3.956	LC	Dubai 1	PAL	x		Arabic	6.60-	14
R	"	"	Radio Dubai				Arabic	7.20	
R	"	"	Dubai FM				English	7.74	
T	3.956	RC	Feeds						
T	3.977	RC	Saudi Arabia TV1	SECAM			Arabic	6.60-	15
T	4.008	RC	RTM Morocco	SECAM			Arabic	6.65-	17
T	4.033	LC	Dubai 2	PAL	x		Arabic	6.60-	18
T	4.051	RC	Saudi Arabia TV2	SECAM			Arabic	6.65-	19
T	4.051	LC	Feeds						
T	4.063	LC	Sultan of Oman TV	PAL			Arabic	6.60-	20
T	4.081	RC	TV Maurtanie	SECAM			Arabic	6.65-	21
T	4.081	LC	Feeds						
T	4.107	LC	MBC	PAL			Arabic	6.60-	22
R	"	"	mbc FM				Arabic	7.38 7.56	
T	4.125	RC	Feeds						
T	4.144	LC	Jordan TV	PAL		x	Arabic	6.60-	24
T	4.164	RC	Egypt TV	PAL			Arabic	6.60-	25
T	4.180	LC	Kuwait TV	PAL			Arabic	6.60-	26
R	"	"	Kuwait Radio 1				Arabic	5.80s	
R	"	"	Kuwait Radio 2				Arabic	7.40s	

1.26 astra

A S T R A M E N U
- - - - -

Astra Tv Channel Alocations

- Astra 1A 11 Ghz
- Astra 1B 11 Ghz
- Astra 1C 11 Ghz
- Astra 1D 11 Ghz
- Astra 1E 12 Ghz
- Astra 1F 12 Ghz
- Astra 1G 12 Ghz

Astra Techinical Inforamtion

- Astra 1A
- Astra 1B
- Astra 1C
- Astra 1D
- Astra 1E

Astra Development chart

1.27 astra-1e-list

19.2 East ASTRA				Dish size: 0.6 m				
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO TP#
-	-----	--	-----	- - - - -	----	----	-----	----
T	10.714	H	arte (german)	PAL	x	-	German	7.02 7.20 49
T	10.714		arte (french)				French	7.38
T	10.714	H	Nickelodeon Deutschland (day)	PAL	x	-	German	7.02 7.20
T	10.729	V	CNBC Super Channel	PAL	x	-	English	7.02 7.20 50
T	10.729	V	CNBC Super Channel (dutch)				Dutch	7.38
T	10.729	V	CNBC Super Channel (german)				German	7.56
T	10.744	H	Veronica 6 (part.encrypted)	PAL	x	Lux	Dutch	7.02 7.20 51

T 10.759 V RTL 4 (part.encrypted) PAL x Lux Dutch 7.02 7.20 52
T 10.773 H SBS 6 (to be terminated) PAL x Lux Dutch 7.02 7.20 53
T 10.773 H Chinese News & Entert.(1-5) PAL - Chinese 7.02 7.20
T 10.788 V Zee TV (CET 08-01) PAL - Vid Miscel. 7.02 7.20 54
T 10.788 V Chinese Channel (CET 01-08) PAL - Nag Chinese 7.02 7.20
T 10.803 H Teleclub PAL - Nag German 7.02 7.20 55
T 10.818 V 56
T 10.832 H Astra Info (soon Racing Ch.) PAL 57
T 10.847 V (Trailer) PAL 58
T 10.862 H 59
T 10.877 V Sky Movies Gold (CET 13-17) PAL x Vid English 7.02 7.20 60
T 10.877 V Racing Channel (CET12-17) PAL Vid English 7.02 7.20
T 10.891 H 61
T 10.906 V H.O.T. Home Ordering Telev. PAL x - German 7.02 7.20 62
T 10.921 H FilmNet (Central Europe) PAL x Vi2 English 7.02 7.20 63
T 10.921 H FilmNet (polish) Polish 7.56
T 10.921 H FilmNet (czech) Czech 7.74
T 10.921 H FilmNet (hungarian) Hungarn 7.92
T 10.921 H The Adult Channel (night) PAL x ViD English 7.02 7.20
T 10.936 V RTL 5 (part. encrypted) PAL x Lux Dutch 7.02 7.20 64
T 10.936 V What's in store (CET 2-15) PAL - - English 7.02 7.20

1.28 astra-1c-list

T 10.964 H ZDF Zweites Deutsches Ferns. PAL x - German 7.02 7.20 33
T 10.979 V UK Living (CET7-1) PAL x Vid English 7.02 7.20 34
T 10.979 V TV-X Fantasy Channel (Night) PAL Vid English 7.02 7.20
T 10.994 H Children's Channel (CET7-18) PAL x Vid English 7.02 7.20 35
T 10.994 H The Family Channel (CET18-1) PAL x Vid English 7.02 7.20
T 11.009 V MiniMax (CET7-21) PAL - Nag Spanish 7.02 7.20 36
T 11.009 V Sports Manja (CET21-1) PAL - Nag Spanish 7.02 7.20
T 11.023 H Cartoon Network (CET6-20) PAL x - English 7.02 7.20 37
T 11.023 H TNT (CET20-6) PAL x - English 7.02 7.20
T 11.023 H TNT (french subcarrier) PAL x - French 7.38
T 11.023 H TNT (scandin. subcarrier) PAL x - Swe/Nor 7.56
T 11.038 V QVC (open Videocrypt) PAL x (-) English 7.02 7.20 38
T 11.053 H WDR Westdeutscher Rundfunk PAL x - German 7.02 7.20 39
T 11.068 V CineClassics PAL - Nag Spanish 7.02 7.20 40
T 11.082 H The Learning Channl(CET10-17) PAL x Vid English 7.02 7.20 41
T 11.082 H Discovery Channel (CET17-1) PAL x Vid English 7.02 7.20
T 11.097 V Bravo (CET13-1) PAL x Vid English 7.02 7.20 42
T 11.097 V EBN (CET7-13) PAL - Vid English 7.02 7.20
T 11.097 V The Playboy Channel (CET1-5) PAL - Vid English 7.02 7.20
T 11.112 H MDR 3 PAL x - German 7.02 7.20 43
T 11.127 V Galavisicn PAL - Spanish 7.02 7.20 44
T 11.141 H Bayern 3 PAL x - German 7.02 7.20 45
T 11.156 V Nickelodeon UK (CET8-20) PAL x Vid English 7.02 7.20 46
T 11.156 V The Hollywood Channel (20-8) PAL ? Vid English 7.02 7.20
T 11.171 H Sky Sports 2 (frCET19-moCET2) PAL x Vid English 7.02 7.20 47
T 11.171 H Sky Travel (mo-fr CET12-17) PAL x Vid English 7.02 7.20
T 11.171 H Sky Soap (mo-fr CET 9-12) PAL x Vid English 7.02 7.20
T 11.171 H Sci-fi Ch. (mo-we 20-23+2-5) PAL x Vid English 7.02 7.20
T 11.171 H Sky Sports Gold (mo-we 23-2) PAL x Vid English 7.02 7.20
T 11.171 H History Channel (mo-fr 17-20) PAL x Vid English 7.02 7.20
T 11.171 H Christian TV (CET5-8) PAL - - English 7.02 7.20

T 11.186 V	Sdwest 3	PAL	x	-	German	7.02 7.20 48	
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1.29 astra-1a-list

T 11.214 H	RTL 2	PAL	x	-	German	7.02 7.20 1	
T 11.229 V	RTL Television	PAL	x	-	German	7.02 7.20 2	
T 11.244 H	Granada Plus	Pal	x	Vid	English TONE1 HQ	3	
T 11.259 V	Eurosport (CET8-2)	PAL	x	-	English 6.50	4	
T 11.259 V	Eurosport (german)				German	7.20	
T 11.259 V	Eurosport (dutch)				Dutch	7.38	
T 11.259 V	Quantum Channel (CET2-8)	PAL	x	-	English 6.50		
T 11.273 H	VOX (CET11-2)	PAL	-	-	German	7.02 7.20 5	
T 11.273 H	Sell-a-Vision (CET6-11)	PAL	-	-	Miscel. 7.02 7.20		
T 11.288 V	Sat 1	PAL	x	-	German	7.02 7.20 6	
T 11.303 H	Sky 2 (CET8-12)	Pal	x	Vid	English TONE1 HQ	7	
T 11.318 V	Sky One	PAL	x	Vid	English 7.02 7.20 8		
T 11.332 H	Kabel 1	PAL	-	-	German	7.02 7.20 9	
T 11.347 V	3sat (Germ/Aust/Swit.)	PAL	x	-	German	7.02 7.20 10	
T 11.362 H	FilmNet 1	D2-MAC	x	EuM	Miscel. TONE1 HQ	11	
T 11.377 V	Sky News	PAL	x	-	English 7.02 7.20 12		
T 11.391 H	Super RTL	PAL	x	-	German	7.02 7.20 13	
T 11.406 V	Pro 7	PAL	x	-	German	7.02 7.20 14	
T 11.421 H	MTV Europe	PAL	x	ViD	English 7.02 7.20 15		
T 11.436 V	Sky Movies	PAL	x	Vid	English 7.02 7.20 16		

1.30 astra-1b-list

T 11.464 H	Premiere	PAL	x	Nag	German	7.02 7.20 17	
T 11.479 V	The Movie Channel	PAL	x	Vid	English 7.02 7.20 18		
T 11.494 H	ARD	PAL	x	-	German	7.02 7.20 19	
T 11.509 V	Sky Sports	PAL	x	Vid	German	7.02 7.20 20	
T 11.523 H	DSF Deutsches Sportfernsehen	PAL	x	-	German	7.02 7.20 21	
T 11.538 V	Video Hits 1	PAL	x	Vid	English 7.02 7.20 22		
T 11.553 H	UK Gold	PAL	x	Vid	English 7.02 7.20 23		
T 11.553 H	What's in store (CET 2-8)	PAL		-	English 7.02 7.20		
T 11.568 V	Country Music TV (CET7-20)	PAL	-	ViD	English 7.02 7.20 24		
T 11.568 V	JSTV (part.clear) (CET20-7)	PAL	-	Vid	Jap/Eng 7.02 7.20		
T 11.582 H	N 3	PAL	x	-	German	7.02 7.20 25	
T 11.597 V	Disney Channel (CET6-23)	PAL	x	Vid	English 7.02 7.20 26		
T 11.597 V	Sky Movies Gold (CET23-3)	PAL	x	Vid	English 7.02 7.20		
T 11.612 H	Via com test	D2-MAC	x	EuM	English TONE1 HQ	27	
T 11.627 V	CNN International (USA)	PAL	x	-	English 7.02 7.20 28		
T 11.641 H	n-tv	PAL	-	-	German	7.02 7.20 29	
T 11.656 V	Cinemanja (clear 21.00-21.30)	PAL	-	Nag	Spanish 7.02 7.20 30		
T 11.671 H	Sky Sport 3	Pal	x	Vid	English TONE1 HQ	31	
T 11.686 V	Documanja (clear 20.15-21.00)	PAL	-	Nag	Spanish 7.02 7.20 32		

1.31 astra-1d-list

T 11.720 H Supersport (later -> MPEG)	D2-MAC - - Swedish TONE1 HQ 65
T 11.739 V	66
T 11.759 H	67
T 11.778 V	68
T 11.798 H	69
T 11.817 V	70
T 11.837 H ARD / ZDF	MPEG-2 71
T 11.856 V	72
T 11.876 H	73
T 11.895 V	74
T 11.915 H	75
T 11.934 V	76
T 11.954 H Tests	MPEG-2 77
T 11.973 V	78
T 11.993 H	79
T 12.012 V Tests	MPEG-2 80
T 12.032 H	81
T 12.051 V	82

1.32 astra-1g-list

T 12.515 H	105
T 12.522 V	106
T 12.545 H	107
T 12.552 V	108
T 12.574 H	109

1.33 1a-tech

ASTRA 1A Technical Information

Launch Date : December 11th 1988
 Launch Vehicle : Ariane 4, Flight 27
 Launch Site : Kourou, French Guyana
 Launch Mass : 1768 Kg

Satellite Manufacturer: GE Astro Electronics
 Satellite Type : 4000
 TWTA Output power : 45 watts
 Channel Capacity : 16 Ch pluss 6 spares

1.34 1b-tech

ASTRA 1B Technical Information

Launch Date : March 3rd 1991
Launch Vehicle : Ariane 4, Flight 42
Launch Site : Kourou, French Guyana
Launch Mass : 2620 Kg

Satellite Manufacturer: GE Astro Electronics
Satellite Type : 5000
TWTA Output power : 60 watts
Channel Capacity : 16 Ch pluss 6 spares

1.35 1c-tech

ASTRA 1C Technical Information

Launch Date : May 1993
Launch Vehicle : Ariane 4
Launch Site : Kourou, French Guyana
Launch Mass : 2635 Kg

Satellite Manufacturer: Huges Aircraft Company
Satellite Type : HS601
TWTA Output power : 63 watts
Channel Capacity : 18 Ch pluss 6 spares

1.36 1d-tech

ASTRA 1D Technical Information

Launch Date : 1994
Launch Vehicle : Ariane 4
Launch Site : Kourou, French Guyana
Launch Mass : 2760 Kg

Satellite Manufacturer: Hughes
Satellite Type : HS 601
TWTA Output power : 63 watts
Channel Capacity : 18 Ch pluss 6 spares

1.37 1e-tech

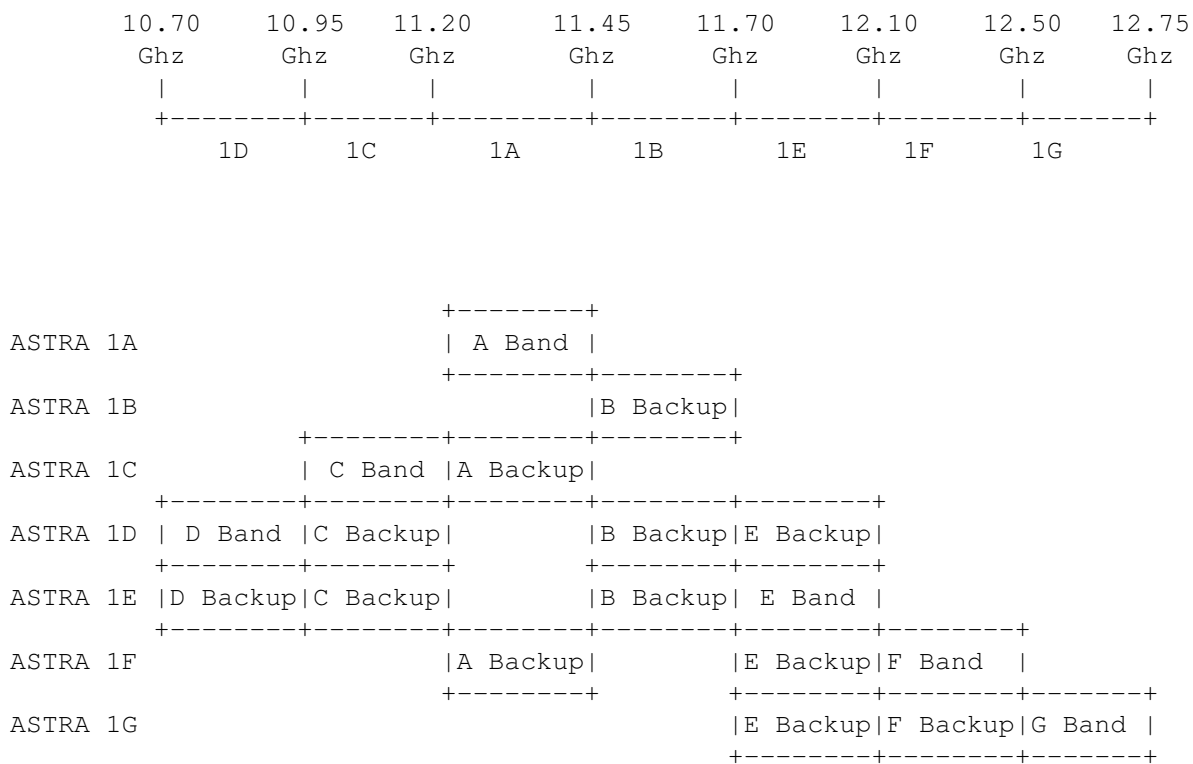
ASTRA 1E Technical Information

Launch Date : 1995
Launch Vehicle : Ariane 4
Launch Site : Kourou, French Guyana
Launch Mass : 3000 Kg

Satellite Manufacturer: Hughes
 Satellite Type : HS 601
 TWTA Output power : 84 watts
 Channel Capacity : 18 Ch pluss 6 spares

1.38 ses-dev

ASTRA 1A - 1G DEVELOPMENT CHART



This is how those clewer chaps at SES want to build the 19.2\textdegree{} position ↔
 .

But you don't understand much of this. ?
 Let me help you out a bit.

ASTRA 1A will use 11.20-11.45 ghz and backup for 1a is on 1B 11.45 - 11.70
 under stand litle bit more now. ?

Problems e-mail me.

1.39 eutelsat

E U T E L S A T S A T E L L I T E M E N U

- Eutelsat 1 F 1 4,11 Ghz
- Eutelsat 1 F 5 4,11 Ghz
- Eutelsat 2 F 1 4,11 Ghz
- Eutelsat 2 F 2 4.11 Ghz
- Eutelsat 2 f 3 4,11 Ghz

1.40 ecs1-f1

48 East EUTELSAT I-F1

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	10.992	RC	Data feeds	PAL					7
T	11.658	RC	Data feeds	PAL					12a

ecs 1 f1

1.41 ecs1-f4

25.5 East EUTELSAT I-F4 (Inclined Orbit) Dish size: >2 m

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	11.095	H	Filmnet	PAL	-	Sve	Greek	Digital	2b
R	"	"	Radio Greece				Greek	6.60-	
T	11.137	H	Feeds (Horse race)					6.65-	3a
T	11.158	H	Feeds					6.65-	3
T	11.171	H	Feeds					6.65-	3b
T	11.475	H	Feeds					6.65-	4a
T	11.492	V	Feeds					6.65-	4
T	11.525	H	Feeds					6.65-	4b
T	11.658	H	Feeds					6.65-	6

1.42 ecs1-f5

21.5 East EUTELSAT 1F5

Dish size: 1.5 m

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	11.065	V	Feeds					6.60-	2a
T	11.096	H	Feeds					6.60-	2b
T	11.135	H	Feeds					6.60-	3a
T	11.178	H	Feeds					6.60-	3b

T 11.475 H Feeds					6.60-	4a
T 11.525 H Feeds					6.60-	4b
T 11.638 H Feeds					6.60-	6a
T 11.678 H Feeds					6.60-	6b

ecs 1 f 5

1.43 ecs-2-f1

13.0 East EUTELSAT II F1 / HOT BIRD				Dish size : 0.6-0.8 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T 10.972 H	Viva 2			PAL	-	-	German	7.02 7.20	20a
T 10.987 V	NBC Super Channel			PAL	x	-	English	6.65-	25
T 10.987 V	NBC Super Channel (dutch)						Dutch	7.02	
T 10.987 V	NBC Super Channel (german)						German	7.20	
T 11.005 H	VIVA tv			PAL	-	-	German	7.02 7.20	20b
T 11.055 H	Kabel Eins (term. planned)			D2/CLR		-	German	TONE1 HQ	21a
T 11.080 V	arte (CET 19-3)			PAL	x	-	French	6.60j	26
T 11.080 V	La Cinquime (CET 7-19)			PAL	-	-	French	6.60j	
T 11.095 H	RTL 2			PAL	x	-	German	6.65	21b
T 11.146 H	Onyx TV			PAL	-	-	German	7.02 7.20	22a
T 11.163 V	Deutsche Welle TV			PAL	x	-	Ger/Mis	6.65	27
T 11.181 H	TRT INT Avrasya			PAL	x	-	Turkish	6.65-	22b
T 11.221 H	TV-E internacional			PAL	x	-	Spanish	6.60-	1
T 11.242 V	VH-1 Deutschland			MPEG	x		German	Digital	2
T 11.266 H	European Business TV			PAL	-	-	English	6.60	3
T 11.283 V	Bloomberg International TV			MPEG2		?	English		4
T 11.283 V	SciFi Channel			MPEG2		?	English		
T 11.283 V	MTV Europe			MPEG2		?	English		
T 11.283 V	VH-1			MPEG2		?	English		
T 11.304 H	MCM Euromusique (encr.plan.)			PAL	x	-	French	6.60j	5
T 11.325 V	TV 5 International			PAL	x	-	French	6.60-	6
T 11.345 H	Tele Mnchen 3			PAL		-	German	7.02 7.20	7
T 11.365 V	RAI Uno			PAL	x	(x)	Italian	6.60	8
T 11.387 H	Eurosport			PAL	x	-	English	6.65	9
T 11.387 H	Eurosport (no comments)						(none)	7.74	
T 11.408 V	Canal Horizons			PAL	x	Nag	French	7.02-7.20	10
T 11.428 H	Polsat			PAL		-	Polish	6.60	11
T 11.428 H	TV Bryza (2-6 in invert.PAL)			PAL-				6.60	
T 11.449 V	Rai Due			PAL	x	(x)	Italian	6.60	12
T 11.471 H	TV Polonia			PAL	-	-	Polish	6.60-	13
T 11.492 V	Polonia 1			PAL	-	-	Polish	6.60-	14
T 11.516 H	EDTV Dubai			PAL	-	-	Arabic	6.60	15
T 11.534 V	Rai Tre			PAL	x	(x)	Italian	7.20 7.20	16
T 11.554 H	mbc - Middle East Broadcast.			PAL	x	-	Arabic	7.02 7.20	32
T 11.575 V	EuroNews (english)						English	7.02	
T 11.596 H	RTL Television (MPEG planned)			PAL	x	-	German	7.02 7.20	33
T 11.617 V	BBC World			PAL	x	-	English	6.60	38
T 11.638 H	Eurotica			PAL		ViD	English	7.02 7.20	34a
T 11.658 V	MTV Europe			PAL	x	Vi2	English	7.02 7.20	39
T 12.521 H	AB Channel 1			PAL	-	-	French	6.60	40
T 12.563 H	Feeds (ITN/WTN)							6.65-	41
T 12.584 V	Feeds							6.65j	46

1.44 ecs-2-f2

10.0 East EUTELSAT II F2 <1991>				Dish size : 0.8 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	10.972	V	VTV	PAL	-	-	Slovak	6.60	25a
T	10.987	H	atv	PAL	-	-	Turkish	6.60-	20
T	11.010	V	Feeds (RAI)					6.65-	25b
T	11.015	H	Satel 2 (Dish Size > 3 m)	PAL	-		Turkish	6.60	20b
T	11.055	H	Feeds						21a
T	11.061	V	Feeds (TGRT)						26a
T	11.080	H	EU (European Union)	PAL			Miscel.	6.65	21
T	11.095	H	TGRT	PAL	-	-	Turkish	6.65	26b
T	11.138	V	Feeds						
T	11.149	H	Feeds						
T	11.178	V	AFN-TV	B-MAC		yes	English	-	27b
T	11.575	V	Med TV (Kurdistan)	PAL		-	Arabic	6.60-	37
T	11.575	V	World Net / C-Span (CET10-17)	PAL	-	-	English	6.60-	
T	11.575	V	Satisfaction Club TV	PAL	-	NLS	Miscel.	6.60	
T	11.596	H	ERT - ET 1 (Greece)	PAL	-	-	Greek	6.60-	33
T	11.617	V	InterSTAR	PAL	-	-	Turkish	6.65	38
T	11.659	V	RTP Internaional	PAL	-	-	Portugs	6.60-	39
T	12.548	V	Feeds						

1.45 ecs-2-f3

16.0 East EUTELSAT II F3 <1991>				Dish size : 0.8 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	10.972	V	RTM 1 Marocco (Rabat)	PAL	-	-	Arabic	6.60	25a
T	10.987	H	HRT Satelitski program (17-)	PAL	-	-	Croatin	6.65-	20
T	10.987	H	Eurostep (mo-fr CET 13-16)	PAL	-	(x)	Miscel.	6.65-	
T	10.987	H	RendezVous TV	D2-MAC	-	EuM	French	TONE1 HQ	
T	11.006	V	Feeds						
T	11.020	H	TV 10 Gold / Music Factory	MPEG	-	-	Dutch	Digital	20b
T	11.049	H	Feeds						
T	11.063	V	Feeds						
T	11.080	H	Bosnia TV (tv bih)	PAL	-	-	Bosnian	7.00-	21
T	11.095	V	ART Europe (Egypt)	PAL	-		Arabic	6.65-	26b
T	11.145	V	Nile TV International	PAL	-	-	Ara/Eng	6.65-	27a
T	11.163	H	Triple X TV (Night)	D2-MAC	x	EuM	English	TONE1 HQ	22
T	11.163	H	Thaiwave / RDV	PAL	-	Nag	Thai	6.60	
T	11.178	V	ESC Egypt Satellite Channel	PAL	-	-	Arabic	6.60	27b
T	11.556	H	TV Plus (evening)	D2-MAC	-	EuM	Dutch	TONE1 HQ	32
T	11.556	H	Euro 7 (CET 07-17)	PAL	-	-	Dutch	6.60	
T	11.556	H	Home Shopping Network (night)	PAL	-	-	English	6.60	
T	11.575	V	TV Shqiptar (CET 18.30-20.30)	PAL	x	-	Albania	6.60-	37
T	11.575	V	TV Romania (CET 20.30-23.30)	PAL	-	-	Romani	6.60-	
T	11.575	V	HTB (News) (CET 0.00-1.00)	PAL	-	-	Russian	6.60-	
T	11.575	V	Muslim TV (CET 12.30-17.00)	PAL	-	-	Arabic?	6.60-	
T	11.575	V	Vatican (CET 17.10-17.25)	PAL	-	-	Italian	6.60-	
T	11.596	H	Duna TV	PAL	x	-	Hungar.	6.50-	33
T	11.617	V	Canal Plus Polska	PAL	-	Nag	Polish	7.02 7.20	38
T	11.638	H	APNA TV (Planned: BTN TV)	PAL	-	-	Hindi	6.60	34a

T 11.656 V	TV7 Tunesienne	PAL	- -	Arabic	6.60	39
T 11.678 H	TV Algeria	PAL	-	Arabic	6.60	34b
T 12.521 H	Feeds					40
T 12.542 H	Feeds					45
T 12.563 H	Feeds					41
T 12.583 V	Feeds					46
T 12.625 V	Feeds					47
T 12.708 V	Feeds					49

1.46 gyrozent-index

G O R I Z O N T / E X P R E S S I N D E X
 - - - - -

- Express 2 4 Ghz
- Gorizont 22 4 Ghz
- Gorizont 26 4 Ghz

1.47 express-2

14 West		EXPRESS 2		Dish size : 1 - 2 m				
A VIDEO	PO PROGRAM	VIDSTD VT COD	LANGUAG	AUDIO	TP#			
-	-	-	-	-	-	-	-	-
T 3.675 RC	Ostankino 1 / GMS	SECAM x -	Russian	7.00-	6			
R " "	Radio Rossiya 4		Russian	7.50				
T 3.725 RC	Feeds	SECAM		7.00s	7			
T 3.775 RC	Feeds	SECAM		7.50s	8			
T 3.825 RC	APNA	PAL - -	Fre/Mal	7.50-	9			
T 3.825 RC	Muslim TV	SECAM - -	Arabic	7.50-				
T 3.825 RC	Cuba Vision	NTSC - -	Spanish	7.50-				
T 3.875 RC	Feeds			7.00-	10			
T 3.940 RC	Feeds			7.00-	11			
T 3.975 RC	Tojacent	SECAM x -	?	7.00-	14			
R " "	Radio Rossiya 4		Russian	7.50				
T 4.025 RC	RTP Internaional	PAL - -	Portugs	6.60-	15			
R " "	Capital FM	- -		7.38 7.56				
T 4.075 RC	TV 3	SECAM - -	Russian	6.60-	16			
T 4.125 RC	Ostankino 1 / GMS	SECAM x -	Russian	7.00-	17			
R " "	Radio Rossiya 4		Russian	7.50-				

1.48 gorizont-22

40.5 East		GORIZONT 22		Dish size: 3 m				
A VIDEO	PO PROGRAM	VIDSTD VT COD	LANGUAG	AUDIO	TP#			
-	-	-	-	-	-	-	-	-
T 3.675 RC	Telekanal Rossiya 2	SECAM x -	Russian	7.00-	6			

R	"	"	Radiostancija Majak				Russian	7.50s		
R	"	"	Radiostancija Junost				Russian	8.00s		
R	"	"	Radio Nostalgie				French	8.40s8.75		
T	3.730	RC	Feeds						7	
T	3.775	RC	Feeds						8	
T	3.825	RC	Feeds						9	
T	3.875	RC	Feeds						10	
T	3.925	RC	Feeds						11	
T	11.525	H	Feeds						k1	

1.49 gorizont-26

11 West			GORIZONT 26			Dish size : >3 m.				
A	VIDEO	PO	PROGRAM		VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----		-----	--	---	-----	-----	---
T	3.675	RC	Oi TV		SECAM	x	-	Russian	7.00-	6
R	"	"	Moscow World Service					Russian	7.50-	
T	3.725	RC	Feeds					7.00-	7	
T	3.775	RC	Feeds					7.00-	8	
T	3.825	RC	TV 6		PAL	-	-	Russian	6.60-	9
T	3.875	RC	Feeds					7.00-	10	
T	3.925	RC	Feeds					7.00-	11	
T	11.525	RC	Saudi Arabic Channel 1		PAL	-	-	Arabic	7.00-	12

1.50 intelsat

I N T E L S A T M A I N M E N U

- Intelsat 502 - 45\textdegree{} West
- Intelsat 504 - 31\textdegree{} West
- Intelsat 506 - 32.5\textdegree{} West
- Intelsat 507 - 47\textdegree{} East
- Intelsat 510 - 57\textdegree{} East
- Intelsat 512 - 21\textdegree{} West
- Intelsat 515 - 18\textdegree{} West
- Intelsat 601 - 27.5\textdegree{} West
- Intelsat 602 - 63\textdegree{} East
- Intelsat 603 - 34.5\textdegree{} East
- Intelsat 604 - 60\textdegree{} East

- Intelsat 702 - 1\textdegree{} West
- Intelsat 704 - 66\textdegree{} East
- Intelsat 705 - 50\textdegree{} West
- Intelsat 706 - 53\textdegree{} West
- Intelsat K - 21.5\textdegree{} West

1.51 intel502

40.5 West INTELSAT 502				Dish size : 3 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	4.166	H	Feeds					6.60-	38a
T	4.188	H	Feeds					6.60-	38b
T	11.133	H	Feeds					6.60-	62
T	11.170	H	Feeds					6.60-	63
T	11.500	H	Feeds					6.60-	69

1.52 intel504

31.5 West INTELSAT 504 (Inclined Orbit)				Dish size : >4 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	3.742	RC	Feeds					6.60-	21
T	3.885	RC	Feeds					6.60-	23a
T	11.135	V	Feeds (HGT-TV STS 55)					6.65-	73a

1.53 intel506

32.5 West INTELSAT 506				Dish size : >4 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	10.973	V	Feeds						71a
T	11.014	V	Feeds						71b
T	11.136	V	Feeds						73a
T	11.172	V	Feeds (NBC USA)						73b
T	11.480	V	Feeds						74a
T	11.635	V	Feeds						79b

1.54 intel507

47 East		INTELSAT 507							
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	3.525	RC	Feeds	PAL				-	

1.55 intel510

57 East		INTELSAT 510 (Inclined Orbit)		Dish size: 5 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	3.914	RC	ETV Ethiopian TV	PAL	-	-	Miscel.	6.60-	13
T	4.091	RC	Sat Racing	PAL				Digital	11
T	4.130	RC	Feeds	PAL				6.60-	37
T	4.166	RC	Feeds	PAL				6.65-	38a
T	4.188	RC	Feeds	PAL				6.65-	38b
T	10.970	H	Feeds	PAL				6.65-	61a
T	11.137	H	Feeds	PAL				6.65-	63a

1.56 intel512

21 West		INTELSAT 512		Dish size : 2 - 5 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	3.801	RC	Feeds					6.60-	22a
T	3.845	RC	Feeds					6.60-	22b
T	3.888	RC	Feeds					6.60-	23a
T	3.932	RC	Tele Sahel	MPEG	-	-	French	Digital	23b
T	4.052	RC	Feeds					6.60-	17
T	11.015	V	Feeds					6.60-	71b
T	11.132	H	Feeds					6.60-	63a
T	11.174	H	Feeds					6.60	63b

1.57 intel515

18 West		INTELSAT 515		Dish size :					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	4.166	RC	Feeds					6.65-	38a
T	4.188	RC	Feeds					6.65-	38b
T	10.970	H	Feeds						61a
T	10.975	V	Feeds					6.65-	71a
T	11.010	V	Feeds					6.65-	71b
T	11.016	H	Feeds						61b
T	11.133	H	Feeds						63a
T	11.137	V	Feeds					6.65-	73a
T	11.174	V	Feeds					6.65-	73b
T	11.177	H	Feeds						63b
T	11.480	V	Feeds					6.60-	74a
T	11.540	H	Feeds						69
T	11.680	V	Feeds					6.60-	79b

1.58 intel601

27.5 West INTELSAT 601 <1989>				Dish size : 1.2 m (CBAND: 3 m)					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	3.655	RC	BBC / M-Net / K TV	PAL	-	Sav	English	6.60-	20
T	3.742	RC	C-Span	PAL	-	-	Eng/Ger	6.60-	21
T	3.883	RC	Canal Horizons	PAL	-	Sys	French	6.60m	23a
T	3.915	RC	Canal France	SECAM	-	-	French	5.80m	23b
T	4.023	RC	RTA Entv Algeria	PAL	-	-	Arabic	7.50-	24
T	4.048	RC	CNN	PAL	-	-	English	6.65-	17
T	4.125	RC	Fbis	B-MAC	-	-	English	Digital	87
T	4.130	RC	Gems	MPEG 2	-	-		Digital	
T	10.995	V	BBC Prime	D2-MAC	x	EuM	English	TONE1 HQ	71
T	10.995	H	Feeds					6.60-	61a
T	11.015	H	Feeds					6.60-	61b
T	11.055	H	Discovery Channel	PAL	x	-	English	7.02-7.20	62a
T	11.055	H	Children's Channel	PAL	x	-	English	7.02-7.20	62a
T	11.094	V	Feeds					6.60-	72b
T	11.095	H	Parliamentary/Learning/WireTV	MPEG			English	Digital	62b
T	11.138	V	Feeds					6.65-	73a
T	11.138	H	Feeds					6.60-	63a
T	11.155	V	Feeds					6.65-	73
T	11.171	V	CMT Europe	PAL	-	-	English	7.02-7.20	73
T	11.175	H	KinderNet / VTV (CET7-10)	PAL	-	-	Dutch	7.02-7.20	63b
T	11.175	H	Travel Channel (CET13-24)	PAL	x	-	English	7.02-7.20	
T	11.475	V	Feeds						64
T	11.475	H	Feeds						
T	11.515	V	Feeds						75a
T	11.562	V	Feeds					6.65-	75b
T	11.591	H	SIS	B-MAC		Yes			69a
T	11.647	V	FilmNet	MPEG	-			Digital	76a
T	11.665	H	TV 1000 Cinema	D2-MAC	-	EuM	Swedish	TONE1 HQ	70
T	11.675	V	Feeds					6.60-	79b

1.59 intel602

63 East INTELSAT 602 <1988>				Dish size: 2 m (IRIB=3 m)					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	4.166	RC	Feeds					6.65-	38a
T	4.188	RC	Feeds					6.65-	38b
T	10.975	H	Feeds Telespazio					6.60-	61a
T	11.002	V	IRIB TV 2	SECAM		-	Persian	6.80-	71a
T	11.011	H	Rete 4	PAL	x	-	Italian	6.60-	61b
T	11.055	H	Cinquestelle	PAL	x	-	Italian	6.60-	62a
T	11.094	H	Feeds					-	62b
T	11.100	V	IRIB TV 3	SECAM			Persian	6.80-	72
T	11.137	H	Italia 1	PAL	x	-	Italian	6.60-	63a
T	11.155	V	IRIB TV 1	SECAM		-	Persian	6.80-	73
T	11.173	H	Canale 5	PAL	x	-	Italian	6.60-	63b
T	11.488	H	Feeds					6.65-	64a
T	11.511	H	Feeds					6.60-	64b

T 11.515 V Feeds				6.60-	75a
T 11.640 H Feeds				6.60-	69a

1.60 intel603

34.5 West INTELSAT 603				Dish size : 4 m				
A VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T 3.910 LC Feeds							? -	53a
T 3.930 LC Feeds							? -	53b
T 4.166 RC Feeds							6.65-	38a
T 4.188 RC Feeds							6.65-	38b
T 10.971 V Muslim TV							6.60-	71a
T 11.005 V Feeds							6.65-	71b
T 11.145 V Feeds (EBU)							6.60-	73a
T 11.180 V Feeds							? -	73b
T 11.467 V Feeds							6.65-	74a
T 11.490 V Feeds							6.65-	74b
T 11.631 V Feeds							6.60-	79

1.61 intel604

60 East INTELSAT 604				Dish size: 4 m				
A VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T 4.166 RC Feeds							6.65-	38a
T 4.188 RC Feeds							6.65-	38b
T 10.975 V Feeds							6.60-	71a
T 10.992 H Feeds							6.80-	61a
T 11.010 H Feeds							6.65-	61b
T 11.010 V Feeds							6.60-	71b
T 11.138 H Feeds							6.80-	63a
T 11.150 V Feeds							7.00-	73a
T 11.495 V Feeds							6.60-	74b
T 11.562 V Feeds							6.60-	75b
T 11.650 H Feeds							6.80-	69a
T 11.685 H Feeds							6.80-	69b

1.62 intel702

1.0 West INTELSAT 702 AOR <1994>				Dish size : 0.6 m (C-BAND : 3 m)				
A VIDEO	PO	PROGRAM (Israel TV > 3 m)	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T 3.840 RC TV 5 International			SECAM			French	6.60-	21
T 3.900 LC Feeds								
T 3.931 LC Samanyolo TV			PAL			Turkish	6.65-	23
T 4.023 LC TV Libya			PAL			Arabic	6.20-	24
T 4.137 LC Nile-TV			PAL			Arabic	6.60-	
T 4.137 LC Egyptian Satelllite Channel			SECAM			Arabic	6.60-	
T 4.175 RC AFRTS (Air Force Radio TV)			B-MAC			English	Digital	38

T 10.965 H Feeds						
T 10.969 V Feeds						
T 11.016 H TV Norge	PAL	-	-	Norwegn 6.60	61b	
T 11.017 V Israel TV3	PAL	-		Hebrew 6.60-	71b	
T 11.055 V TV 1000	D2-MAC	-	EuM Swedish TONE1 HQ	72a		
T 11.096 H TV 3 Norge	D2-MAC x	EuM Norwegn TONE1 HQ	62b			
T 11.135 H Feeds						
T 11.136 V Israel TV1	PAL	-		Hebrew 6.60-	73	
T 11.176 H NRK	D-MAC x	-	Norwegn TONE1 HQ	63b		
T 11.178 V Israel TV2		-		Hebrew 6.60-	7b	
T 11.473 H TV 3 Danmark	D2-MAC x	EuM Danish TONE1 HQ	75			
T 11.555 " TV 2 Norge	D2-MAC x	Eu2 Norwegn TONE1 HQ	65			
T 11.597 V TV 3 Sverige	D2-MAC x	EuM Swedish TONE1 HQ	79			
T 11.679 H TV Plus	D2-MAC	-	EuM Norwegn TONE1 HQ	69		

1.63 intel704

66 East	INTELSAT 704	Dish size: 4 m					
A VIDEO	PO PROGRAM	VIDSTD VT COD	LANGUAG	AUDIO	TP#		
T 3.770 RC Feeds				6.60-	11		
T 3.795 RC Feeds				6.60-	12		
T 3.970 RC Feeds				6.60-	14		
T 4.045 LC E TV	PAL	-	-	Maleis 6.60-			
T 4.059 RC Feeds				6.60-			
T 4.095 LC India TV / Yes	PAL	-	-	Mal/Eng 6.60-			
T 4.177 RC Deutsche Welle / World Net	PAL	-	-	Ger/Eng 6.60-			
T 11.140 H Feeds				6.60-	63a		

1.64 intel705

50 West	INTELSAT 705						
A VIDEO	PO PROGRAM	VIDSTD VT COD	LANGUAG	AUDIO	TP#		
T 3.855 RC Feeds				6.60-			

1.65 intel706

53 West	INTELSAT 706	Dish size : >4 m					
A VIDEO	PO PROGRAM	VIDSTD VT COD	LANGUAG	AUDIO	TP#		
T 3.720 RC Feeds				6.60-	21a		
T 3.772 LC Feeds				6.60-	11		
T 3.775 RC Feeds				6.60-	21b		
T 3.920 RC Feeds				6.60-	06		
T 3.990 RC 2 M	SECAM	-	Dis Arabic	6.65-	14		
T 11.498 V Feeds				6.65-			

1.66 intelk

21.5 West INTELSAT K				Dish size : 1.5 m						
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#	
T	11.467	V	Feeds (Reuters)					6.60j	v5a	
T	11.467	H	Feeds (n-tv)					6.60j	h5a	
T	11.485	V	Feeds					6.65-7.40	v5	
T	11.485	H	Feeds					6.60-	h5	
T	11.502	V	Feeds					6.60-	v5b	
T	11.502	H	Feeds (n-tv and CNN)					6.60-	h5b	
T	11.527	V	Feeds					6.60-	v6a	
T	11.527	H	Microsoft TV	PAL	-	-	English	6.65-	h6a	
T	11.545	V	Feeds					6.60-	v6	
T	11.545	H	Feeds					6.60-	h6	
T	11.562	V	Feeds (Reuters)					6.60-	v6b	
T	11.562	H	Feeds (Reuters)					6.60-	h6b	
T	11.587	V	Feeds (Reuters)					6.60-	v7a	
T	11.587	H	Feeds					6.60-	h7a	
T	11.605	V	Feeds					6.60-	v7	
T	11.605	H	Feeds					6.60-	h7	
T	11.622	V	Feeds					6.60-	v7b	
T	11.622	H	Feeds					6.60-	h7b	
T	11.647	V	Feeds					6.60-	v8a	
T	11.647	H	Feeds					6.60-	h8a	
T	11.665	V	Feeds					6.60-	v8	
T	11.665	H	Feeds					6.60-	h8	
T	11.682	V	Feeds					6.60-	v8b	
T	11.682	H	Feeds					6.60-	h8b	
T	12.517	V	Feeds					6.60-	v1a	
T	12.535	V	Feeds					6.60-	v1	
T	12.552	V	Feeds					6.60-	v1b	
T	12.577	V	Feeds					6.60-	v2a	
T	12.595	V	Feeds					6.60-	v2	
T	12.612	V	Feeds					6.60-	v2b	
T	12.637	V	Feeds					6.60-	v3a	
T	12.655	V	Canal Hollywood	MPEG 1	-	-	Spanish	Digital	v3	
T	12.672	V	Feeds					6.60-	v3b	
T	12.697	V	Feeds					Digital	v4a	
T	12.715	V	PSN				English	6.60-	v4	
T	12.732	V	TV Dubai	NTSC	-	-	Arabic	6.65-	v4b	

1.67 dfs

DEUTCHE FERNSEN SATELITTE

- DFS Kopernikus 1

- DFS Kopernikus 2

1.68 dfs1

23.5 East DFS KOPERNIKUS 1 <1991>				Dish size: 0.8 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	11.475	H	Sat 1	PAL	x	-	German	6.65	a1
T	11.525	H	(Test picture)						a2
T	11.548	V	arte (german)	PAL	x	-	German	7.02 7.20	b1
T	11.548	V	arte (french)				French	7.38	
T	11.600	V	VOX	PAL	-	-	German	7.02 7.20	b2
T	11.625	H	Nickelodeon Deutschland(6-20)	PAL	x	-	German	7.02 7.20	c1
T	11.675	H	Der Wetterkanal (9-17)	PAL	-	-	German	7.02 7.20	c2
T	12.524	V	Feeds						k1
T	12.559	H	Feeds						k2
T	12.591	V	Premiere	PAL	x	Nag	German	7.02 7.20	k3
T	12.621	V	RAI1+2/ATV2/KanalD/TV Polonia	DIGIT.			Miscel.		
T	12.658	V	ARD/ZDF/SAT1/RTL/PRO SIEBEN	DIGIT.			German		k5
T	12.692	H	Feeds						k6

1.69 dfs2

28.5 East DFS KOPERNIKUS 2 <1989>				Dish size: 0.8 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	11.475	H	Cable Plus	PAL	-	Vi2	Czech	6.60-	a1
	"	"	Eurosport audio				Czech	7.38-7.56	
T	11.525	H	Premiera TV	PAL	-	NKS	Czech	6.60-	a2
T	11.548	V	RTL	PAL	x	-	German	6.65-	b1
T	11.601	V	Feeds						b2
T	11.625	H	TS-News / Sat 1 regional	PAL	-		German	6.65-	c1
T	11.675	H	Feeds						c2
T	12.525	H	VT 4 (Belgium)	MPEG	-	Nag	Dutch	Digital	k1
T	12.559	H	Feeds						k2
T	12.591	H	Feeds						k3
T	12.625	H	Feeds					6.60-	k4
T	12.655	8	Feeds						k5
T	12.692	H	Feeds (RTL regional prog.)					6.65-	k6
T	12.725	V	Feeds					6.60-	k7

1.70 tv-d

Hughes Communications DirecTV / Hubbard Broadcasting USSB (DSS)

Hughes Communications DBS-1

101.2 degrees West longitude

NORAD: 22930

Satellite Type: Three-axis stabilized

Launched December 18, 1993 (Ariane)

Inclination: .0069 degrees

16 transponders - 120 watts each

Hughes Communications DBS-2

100.8 degrees West longitude
 NORAD: 23192
 Satellite Type: Three-axis stabilized
 Launched August 3, 1994 (Ariane)
 Inclination: .0079 degrees
 16 transponders - 120 watts each

Hughes Communications DBS-3
 100.8 degrees West longitude
 NORAD: 23598
 Satellite Type: Three-axis stabilized
 Launched June 10, 1995 (Ariane)
 Inclination: .0036 degrees
 16 transponders - 120 watts each

DirecTV uses transponders 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,
 16,17,18,19,20,21,22,23,25,27,29, and 31

USSB uses transponders 24,26,28,30, and 32

Here is the latest channel lineup I've seen posted on the computer networks.
 All services are delivered by video compression.

(100-899 DIRECTV)

100 Direct Ticket Previews	275 Encore 5 - Action
101 Direct Ticket Special Events	276 Encore 6 - True Stories and Drama
102 Direct Ticket PPV Channel	277 Encore 7 - WAM!
103 Direct Ticket PPV Channel	278 Encore Plus (duplicate of one of
104 Direct Ticket PPV Channel	the above)
105 Direct Ticket PPV Channel	282 WRAL-TV, Raleigh, NC (CBS)
108 Direct Ticket PPV Channel	283 KPIX-TV, San Francisco (CBS)
109 Direct Ticket PPV Channel	284 WNBC-TV, New York (NBC)
110 Direct Ticket PPV Channel	285 KNBC-TV, Los Angeles (NBC)
111 Direct Ticket PPV Channel	286 PBS National Feed
112 Direct Ticket PPV Channel	287 WJLA-TV, Washington (ABC)
113 Direct Ticket PPV Channel	288 KOMO-TV, Seattle (ABC)
114 Direct Ticket PPV Channel	289 FOXNet (FOX)
115 Direct Ticket PPV Channel	297 Informational Channel
116 Direct Ticket PPV Channel	298 TV ASIA
117 Direct Ticket PPV Channel	299 In-store Dealer Info Network
118 Direct Ticket PPV Channel	300 DirecTV Sports Offer
119 Direct Ticket PPV Channel	301 Special Events Calendar
120 Direct Ticket PPV Channel	302 Special Events Calendar
121 Direct Ticket PPV Channel	303 NewSport
122 Direct Ticket PPV Channel	304 Golf Channel
123 Direct Ticket PPV Channel	305 Classic Sports Network
124 Direct Ticket PPV Channel	306 Speedvision
125 Direct Ticket PPV Channel	307 Outdoor Life Network
127 Direct Ticket PPV Channel	309 SPORTSCHANNEL New England
128 Direct Ticket PPV Channel	310 Madison Square Garden
129 Direct Ticket PPV Channel	311 New England Sports Network (NESN)
130 Direct Ticket PPV Channel	312 SPORTSCHANNEL New York
132 Direct Ticket PPV Channel	313 Empire Sports Network
133 Direct Ticket PPV Channel	314 SPORTSCHANNEL Philadelphia
134 Direct Ticket PPV Channel	315 Prime Sports KBL
135 Direct Ticket PPV Channel	316 Home Team Sports (HTS)
138 Direct Ticket PPV Channel	317 SportSouth

139	Direct Ticket PPV Channel	318	Sunshine Network
140	Direct Ticket PPV Channel	320	Pro Am Sports (PASS)
141	Direct Ticket PPV Channel	321	SPORTSCHANNEL Ohio
142	Direct Ticket PPV Channel	322	SPORTSCHANNEL Cincinnati
143	Direct Ticket PPV Channel	323	SPORTSCHANNEL Chicago
145	Direct Ticket PPV Channel	324	Midwest Sports Channel (MSC)
146	Direct Ticket PPV Channel	325	Prime Sports Southwest
149	Direct Ticket PPV Channel	326	Prime Sports Intermountain West/ Midwest/Rocky Mountain
150	Direct Ticket PPV Channel	330	Prime Sports Northwest
151	Direct Ticket PPV Channel	331	Prime Sports West
154	Direct Ticket PPV Channel	332	SPORTSCHANNEL Pacific
155	Direct Ticket PPV Channel	401	Spice
156	Direct Ticket PPV Channel	402	Playboy At Night
158	Direct Ticket PPV Channel	501	AUDIO - Hit list
160	Direct Ticket PPV Channel	502	AUDIO - Dance
162	Direct Ticket PPV Channel	503	AUDIO - Hip Hop
164	Direct Ticket PPV Channel	504	AUDIO - Urban Beat
170	Direct Ticket PPV Channel	505	AUDIO - Reggae
175	Direct Ticket PPV Channel	506	AUDIO - Blues
180	Direct Ticket PPV Channel	507	AUDIO - Jazz
181	Direct Ticket PPV Channel	508	AUDIO - Jazz Plus
182	Direct Ticket PPV Channel	509	AUDIO - Contemp. Jazz
185	Direct Ticket PPV Channel	510	AUDIO - New Age
188	Direct Ticket PPV Channel	511	AUDIO - Eclectic Rock
190	Direct Ticket PPV Channel	512	AUDIO - Modern Rock
201	DirecTV Events Calendar	513	AUDIO - Classic Rock
202	Cable News Network	514	AUDIO - Rock Plus
203	Court Television	515	AUDIO - Metal
204	CNN Headline News	516	AUDIO - Solid Gold Oldies
206	ESPN	517	AUDIO - Soft Rock
207	ESPN (Alternate)	518	AUDIO - Love Songs
208	ESPN2	519	AUDIO - Progressive Country
212	Turner Network Television	520	AUDIO - Contemp. Country
213	Home Shopping Network	521	AUDIO - Country Gold
214	Home and Garden TV	522	AUDIO - Big Band
215	E! Entertainment Television	523	AUDIO - Easy Listening
216	MuchMusic U.S. version	524	AUDIO - Classic Favorites
217	Black Entertainment TV (BET)	525	AUDIO - Classics in Concert
219	American Movie Classics	526	AUDIO - Contemp. Christian
220	Turner Classic Movies	527	AUDIO - Gospel
221	Arts and Entertainment (A&E)	528	AUDIO - For Kids Only
222	The History Channel	529	AUDIO - Sounds of the Season
223	The Disney Channel (East)	599	AUDIO - NRTC (realtor channel)
224	The Disney Channel (West)		
225	The Discovery Channel		
226	The Learning Channel		(900-999 USSB)
227	Cartoon Network	899	USSB Promos
229	USA Network (East)	900	USSB Pay-per-view
230	TRIO	963	All News Channel
232	Family Channel (East)	965	VH-1
233	Superstation TBS	967	Lifetime (East)
235	The Nashville Network	968	Nickelodeon (East)
236	Country Music Television	970	FLIX
240	Sci-Fi Channel	973	Cinemax (East)
242	C-SPAN 1	974	Cinemax 2
243	C-SPAN 2	975	Cinemax (West)
245	Bloomberg Direct (Bloomberg	977	The Movie Channel (East)

	Business)	978 The Movie Channel (West)
246 CNBC		980 HBO (East)
247 America's Talking		981 HBO 2 (East)
248 The Weather Channel		982 HBO 3
250 CBC Newsworld International		983 HBO (West)
252 CNN International / CNNfn		984 HBO 2 (West)
254 Travel Channel		985 Showtime (East)
258 Bravo		986 Showtime 2
266 Independent Film Channel		987 Showtime (West)
269 STARZ! - West		989 MTV (East)
270 STARZ! - East		990 Comedy Central
271 Encore - 60's, 70's, 80's movies		995 Sundance Channel
272 Encore 2 - Love Stories		999 USSB Promos
273 Encore 3 - Westerns		
274 Encore 4 - Mystery		

1.71 galaxy-index

Galaxy Main Menu

Galaxy 1	133\textdegree{} West	4 Ghz
Galaxy 3R	95\textdegree{} West	4 Ghz
Galaxy 4	99\textdegree{} West	4 Ghz
Galaxy 4	99\textdegree{} West	11 Ghz
Galaxy 5	125\textdegree{} West	4 Ghz
Galaxy 6	74\textdegree{} West	4 Ghz
Galaxy 7	91\textdegree{} West	4 Ghz

1.72 galaxy-1

Hughes Communications Galaxy 1R - C-Band

133 degrees West longitude

NORAD: 23016

Satellite Type: Spin stabilized

Launched: February 19, 1994 (Delta II 7925)

Inclination: .0067 degrees

Transponder Power: 24 transponders - 16 watts each

Tr.	Uplink Freq	Downlink Freq	Block IF	Channel
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	in MHz	in MHz	Freq	Readout
1 (H)	5945	3720	1430	1
2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14
15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16
17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24
G1R-1 (C)	V2+		Comedy Central (West) --	Comedy
G1R-1 (C)			programming	
G1R-1 (C)				
G1R-1 (C)	ATIS	7.10	E4063 1102130807 516 361 xxxx	HBO COM W
G1R-1 (C)				
G1R-1 (C)	ASC	7.38	Blank audio carrier	
G1R-2 (C)	COMPR		Spanish-language DIGITAL VIDEO	
G1R-2 (C)			COMPRESSION using SCIENTIFIC ATLANTA	
G1R-2 (C)			MPEG (UA)	
G1R-2 (C)			- Univision	
G1R-2 (C)			- Galavision	
G1R-3 (C)	V2+		Encore -- premium movie	
G1R-3 (C)			service	
G1R-3 (C)				
G1R-3 (C)	ATIS	8.30	DE E940005 303486xxxx 311566	
G1R-3 (C)			/WTCISUBURB	
G1R-4 (C)	COMPR		DIGITAL VIDEO COMPRESSION using G.I.	
G1R-4 (C)			DIGICIPHER UA	
G1R-4 (C)			- Television Food Network (TVFN)	
G1R-4 (C)			- Canal de Noticias NBC	
G1R-4 (C)			- [Future Home of BBC World]	
G1R-4 (C)			- America's Health Network	
G1R-5 (C)	ITC	6.2/6.8, 5.8	Classic Arts Showcase	
G1R-5 (C)				
G1R-5 (C)	ATIS	7.10	de e2941 818840xxxx wci1239037 /4 media	

G1R-5 (C)			co
G1R-6 (C)	ITC	6.2/6.8	Z-Music -- Christian Rock Music
G1R-6 (C)		7.38/7.58	Service
G1R-6 (C)			
G1R-6 (C)	ATIS	7.10	N 1003145297 615 ?76 xxxx SA750 ATIS
G1R-7 (C)	V2+		The Disney Channel (West) --
G1R-7 (C)			Premium programming service from
G1R-7 (C)			Disney
G1R-7 (C)			
G1R-7 (C)	ASC	6.80	Program audio (o/a) -- usually a
G1R-7 (C)			Blank audio carrier
G1R-7 (C)			
G1R-7 (C)	ATIS	7.10	E950069 1308439945 818 973 xxxx DISNEY
G1R-7 (C)			CH
G1R-8 (C)	V2+		The Cartoon Channel -- cartoons
G1R-8 (C)			24 hours a day
G1R-8 (C)			
G1R-8 (C)			VC2+ Alternate Audio -- Spanish
G1R-8 (C)			language SAP
G1R-8 (C)			
G1R-8 (C)	ASC	7.38	Blank audio carrier
G1R-8 (C)			
G1R-8 (C)	ATIS	7.10	de e2001 404885xxxx 2534175020
G1R-9 (C)	ITC	6.80	Shop At Home -- home shopping
G1R-9 (C)			service (o/v) - ASC(7.28) Skylink Data
G1R-9 (C)			service - ASC(7.60) Planet Connect Data
G1R-9 (C)			service
G1R-9 (C)	V2+		ESPN2 Blackout programming [VBI:
G1R-9 (C)			ESPN-2 ALT] -- o/v -- ATIS(7.10)
G1R-9 (C)			de wq35 203585xxxx wci1231171
G1R-9 (C)			/espn inc
G1R-10 (C)	V2+		America's Talking
G1R-10 (C)			
G1R-10 (C)	ASC	6.80	Blank audio carrier
G1R-10 (C)			
G1R-10 (C)	ATIS	7.10	DE E872073 718289xxxx 2534175150
G1R-10 (C)			KEYSTONE NY
G1R-11 (C)	ITC	6.80, 6.20	Eternal Word Television Network --
G1R-11 (C)			religious
G1R-11 (C)			
G1R-11 (C)	ATIS	7.10	5238105 1305238105 205 956 xxxx SA750
G1R-11 (C)			ATIS
G1R-11 (C)			
G1R-11 (C)	ASC	5.60, 5.78	Blank audio carriers
G1R-11 (C)		5.68, 5.86	
G1R-12 (C)	ITC	6.8, 6.2	ValueVision -- Home Shopping
G1R-12 (C)			Service
G1R-12 (C)			
G1R-12 (C)	ATIS	7.10	de e4394 612330xxxx wci1231135 /

G1R-13 (C)	COMPR		Encore DIGITAL VIDEO COMPRESSION
G1R-13 (C)			using G.I. DIGICIPHER UA
G1R-13 (C)			- STARZ! (East)
G1R-13 (C)			- STARZ! (West)
G1R-13 (C)			- Encore - Love Stories
G1R-13 (C)			- Encore - Westerns
G1R-13 (C)			- Encore - Mystery
G1R-13 (C)			- Encore - Action
G1R-13 (C)			- Encore - True Stories
G1R-13 (C)			- Encore - WAM!
G1R-14 (C)	ITC	6.80	Shop At Home -- home shopping
G1R-14 (C)			service (o/v) - ASC(7.28) Skylink data
G1R-14 (C)			service - ASC(7.60) Planet Connect
G1R-14 (C)			data service
G1R-14 (C)	V2+		ESPN Blackout Channel -- ESPN
G1R-14 (C)			blackout programming (o/v) --
G1R-14 (C)			ATIS(7.10) de wq35 203585xxxx
G1R-14 (C)			wci1231175 /espn inc
G1R-15 (C)	V2+		CNN International (part time)
G1R-15 (C)	V2+		CNNfn - financial news (part time)
G1R-15 (C)	ASC	7.38	Data transmission
G1R-15 (C)	ATIS	7.10	449992 1310430014 404 885 xxxx sa750
G1R-15 (C)			atis
G1R-16 (C)	V2+		Turner Classic Movies [VBI: TCM Network
G1R-16 (C)			Control]
G1R-16 (C)	ATIS	7.10	1302473 1302439353 404 885 xxxx sa750
G1R-16 (C)			atis
G1R-17 (C)	ITC	6.80, 6.20	The New Inspirational Net --
G1R-17 (C)			religious
G1R-17 (C)	ASC	7.92	Heaven Radio Network
G1R-17 (C)	ATIS	7.10	de e9138 704542xxxx wci1231074 /
G1R-18 (C)	COMPR		HBO DIGITAL VIDEO COMPRESSION
G1R-18 (C)			using G.I. DIGICIPHER UA
G1R-18 (C)			- HBO 2 (East)
G1R-18 (C)			- HBO 3 (East)
G1R-18 (C)			- Cinemax 2
G1R-18 (C)			- HBO 2 (West)
G1R-19 (C)	V2+		Cinemax (East) --
G1R-19 (C)			Cinemax premium movie service
G1R-19 (C)	ASC	6.80	Blank audio carrier
G1R-19 (C)	ATIS	7.10	e4063 1102130144 516 361 xxxx hbo

G1R-19 (C)			max e
G1R-20 (C)	ITC	6.80	Home and Garden TV Network
G1R-20 (C)		5.58, 5.78	[scrambles with VC2+ in April 1996]
G1R-20 (C)			
G1R-20 (C)	ASC	6.20	Blank audio carrier
G1R-20 (C)			
G1R-20 (C)	ATIS	7.10	= E940452 HGTV 615 470 xxxx KNOXVILLE
G1R-20 (C)			TN
G1R-21 (C)	V2+		USA (West) -- variety programming
G1R-21 (C)			
G1R-21 (C)	ASC	6.20	Audio Tone/Spanish-language SAP
G1R-21 (C)			
G1R-21 (C)	ATIS	7.10	DE E930435 718983xxxx MI298722
G1R-21 (C)			/IDBCOMMNY
G1R-22 (C)	ITC	6.8, 6.2	Nostalgia Channel -- vintage
G1R-22 (C)			programming
G1R-22 (C)			
G1R-22 (C)	ATIS	7.10	e870887 1003145242 703 823 xxxx
G1R-22 (C)			crown comm
G1R-23 (C)	ITC	6.80	Color Bars
G1R-24 (C)	ITC	6.80, 6.20	Global Shopping Network (GSN) --
G1R-24 (C)			ATIS(7.10) E5740 1202132542 908
G1R-24 (C)			969 XXXX SA750 ATIS
G1R-24 (C)			
G1R-24 (C)	COMPR		Digital Video Compression using
G1R-24 (C)			G.I. Digicipher (UA)
G1R-24 (C)			- Speedvision

1.73 galaxy-3

Hughes Communications Galaxy 3R - C-Band

95 degrees West longitude

NORAD: 23741

Satellite Type: Three-axis stabilized

Launched: December 15, 1995 (Atlas IIA)

Inclination: .0173 degrees

Transponder Power: 24 transponders - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1(H)	5945	3720	1430	1

2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14
15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16
17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24

G3R-1 (C)	V2+		TVN Theatre 1
G3R-1 (C)			
G3R-1 (C)	ASC	5.58	Data Transmissions
G3R-1 (C)			
G3R-1 (C)	ASC	6.80	Barker Channel
G3R-1 (C)			
G3R-1 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-1 (C)			/4 MEDIA CO
G3R-2 (C)	V2+		TVN Theatre 2
G3R-2 (C)			
G3R-2 (C)	ASC	5.58	Data Transmissions
G3R-2 (C)			
G3R-2 (C)	ASC	6.80	Barker Channel
G3R-2 (C)			
G3R-2 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-2 (C)			/4 MEDIA CO
G3R-3 (C)	V2+		TVN Theatre 3
G3R-3 (C)			
G3R-3 (C)	ASC	5.58	Data Transmissions
G3R-3 (C)			
G3R-3 (C)	ASC	6.80	Barker Channel
G3R-3 (C)			
G3R-3 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-3 (C)			/4 MEDIA CO
G3R-4 (C)	V2+		TVN Theatre 4
G3R-4 (C)			
G3R-4 (C)	ASC	5.58	Data Transmissions
G3R-4 (C)			
G3R-4 (C)	ASC	6.80	Barker Channel
G3R-4 (C)			

G3R-4 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-4 (C)			/4 MEDIA CO
G3R-5 (C)	V2+		TVN Theatre 5
G3R-5 (C)			
G3R-5 (C)	ASC	5.58	Data Transmissions
G3R-5 (C)			
G3R-5 (C)	ASC	6.80	Barker Channel
G3R-5 (C)			
G3R-5 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-5 (C)			/4 MEDIA CO
G3R-6 (C)	V2+		TVN Promo Channel (part time usage)
G3R-6 (C)			
G3R-6 (C)	V2+		TVN Theatre 6 - Letterboxed movies
G3R-6 (C)			(part time usage)
G3R-6 (C)			
G3R-6 (C)	ASC	5.58	Data Transmissions
G3R-6 (C)			
G3R-6 (C)	ASC	6.80	Barker Channel
G3R-6 (C)			
G3R-6 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-6 (C)			/4 MEDIA CO
G3R-7 (C)	ITC	6.8, 6.2	America's ChoiceMall - infomercials
G3R-7 (C)			
G3R-7 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-7 (C)			/4 MEDIA CO
G3R-8 (C)	ITC	6.8, 6.2	Gospel Music Network
G3R-8 (C)			
G3R-8 (C)	ATIS	7.10	DE WB20 201 764 XXXX 2534175331
G3R-8 (C)			GLENWOOD04
G3R-9 (C)	V2+		TVN Theatre 9 - adultTVision
G3R-9 (C)			
G3R-9 (C)	ASC	5.58	Data Transmissions
G3R-9 (C)			
G3R-9 (C)	ASC	6.80	Barker Channel
G3R-9 (C)			
G3R-9 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037
G3R-9 (C)			/4 MEDIA CO
G3R-10 (C)	V2+		Showtime 2 - Time shifted movie
G3R-10 (C)			programming
G3R-10 (C)			
G3R-10 (C)	ASC	6.80	Barker Channel
G3R-10 (C)			
G3R-10 (C)	ATIS	7.10	DE E2707 516435XXXX WCI1239047 /
G3R-11 (C)			5DTV CONTRACT TRANSPONDER
G3R-11 (C)			
G3R-11 (C)			o/v
G3R-11 (C)			
G3R-11 (C)	ITC	6.80	America's Collectibles Network (o/v)
G3R-11 (C)			-- occasionally seen on other G3R, G4,
G3R-11 (C)			or Telstar 402R C-band transponders

G3R-12 (C)			MCI ANDOVER, ME E/S CONTRACT
G3R-12 (C)			TRANSPONDER - ATIS (7.10) E930190
G3R-12 (C)			1105348915 207 364 XXXX ANDOVER
G3R-12 (C)			ME
G3R-12 (C)			
G3R-12 (C)			o/v
G3R-13 (C)			5DTV CONTRACT TRANSPONDER
G3R-13 (C)			
G3R-13 (C)			o/v
G3R-14 (C)			5DTV CONTRACT TRANSPONDER
G3R-14 (C)			
G3R-14 (C)			o/v
G3R-15 (C)			SUPERIOR COMMUNICATIONS CONTRACT
G3R-15 (C)			TRANSPONDER
G3R-15 (C)			
G3R-15 (C)			o/v
G3R-16 (C)	V2+		Home Box Office East 2 -- HBO Time
G3R-16 (C)			Shifted Programming
G3R-16 (C)			
G3R-16 (C)	ASC	6.80	Blank audio carrier
G3R-16 (C)			
G3R-16 (C)	ATIS	7.10	E930421 1309238368 444 444 XXXX HBO 2E
G3R-16 (C)			G7
G3R-17 (C)	V2+		Cinemax East 2 -- Time shifted
G3R-17 (C)			Cinemax programming
G3R-17 (C)			
G3R-17 (C)	ATIS	7.10	E930421 1309238379 444 444 XXXX HBO G5
G3R-17 (C)			BU1
G3R-18 (C)			(none)
G3R-19 (C)	V2+		Home Box Office East 3 -- Time
G3R-19 (C)			shifted HBO programming
G3R-19 (C)			
G3R-19 (C)	ASC	6.80, 6.20	Blank audio carriers
G3R-19 (C)			
G3R-19 (C)	ATIS	7.10	E930422 1102130291 516 361 XXXX HBO G7
G3R-19 (C)			BU2
G3R-20 (C)	V2+		Home Box Office West 2 -- Time
G3R-20 (C)			shifted HBO programming
G3R-20 (C)			
G3R-20 (C)	ASC	6.80	Blank audio carrier
G3R-20 (C)			
G3R-20 (C)	ATIS	7.10	E930422 1101130086 516 361 XXXX HBO 2W
G3R-20 (C)			G7
G3R-21 (C)			o/v
G3R-22 (C)			[Global Access Telecommunication
G3R-22 (C)			Services Contract Transponder]

G3R-22 (C)			
G3R-22 (C)			o/v
G3R-22 (C)			
G3R-22 (C)	ITC	6.8	Radiotelevisione Italiana
G3R-22 (C)			(RAI) -- Italian language TV
G3R-22 (C)			(o/v) - ATIS(8.30) DE WB20 201 764 xxxx
G3R-22 (C)			2534175297 GLENWOOD02
G3R-23 (C)	ITC	6.8	3 Angels Broadcasting --
G3R-23 (C)			religious
G3R-23 (C)			
G3R-23 (C)	ATIS	7.10	E860030 1309137434 618 627 xxxx 3ABN
G3R-23 (C)			62890
G3R-24 (C)	V2+		FLIX - movie service
G3R-24 (C)			
G3R-24 (C)	ASC	6.80	Barker Channel
G3R-24 (C)			
G3R-24 (C)	ATIS	7.10	DE E2707 516435XXXX WCI1239046 /

1.74 galaxy-4-c

Hughes Communications Galaxy 4 - C-Band

99 degrees West longitude

NORAD: 22694

Satellite Type: Three-axis stabilized

Launched: June 24, 1993 (Ariane)

Inclination: .0091 degrees

Transponder Power: 24 transponders - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14
15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16

17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24

Cross-strapping: C-band transponders 18 and 24 can cross-strap to Ku-band transponders 17 and 23.

G4-1 (C)	SCPC	1445.000	WPCG-FM, Morningside, MD - R&Bes
G4-1 (C)			
G4-1 (C)	SCPC	1443.800	Chinese audio service
G4-1 (C)			
G4-1 (C)	SCPC	1443.600	Chinese audio service
G4-1 (C)			
G4-1 (C)	SCPC	1443.400	Chinese audio service
G4-1 (C)			
G4-1 (C)	SCPC	1438.300	WWRV, 1300 AM, Patterson, NJ
G4-1 (C)			-- "Radio Christiana
G4-1 (C)			Internacional"
G4-1 (C)			
G4-1 (C)	SCPC	1436.500	Radio Labio
G4-1 (C)			
G4-1 (C)	SCPC	1436.300	KOJY-AM Costa Mesa, CA - all news
G4-1 (C)			
G4-1 (C)	SCPC	1436.000	KUSC-FM, Los Angeles, CA - NPR aff.
G4-1 (C)			
G4-1 (C)	SCPC	1435.700	KUSC-FM, Los Angeles, CA - NPR aff.
G4-1 (C)			
G4-1 (C)	SCPC	1435.200	o/a
G4-1 (C)			
G4-1 (C)	SCPC	1429.000	o/a
G4-2 (C)			
G4-2 (C)	SCPC	1402.600	West Virginia Metro News
G4-2 (C)			
G4-2 (C)	SCPC	1402.000	West Virginia Metro News
G4-2 (C)			
G4-2 (C)	SCPC	1399.000	o/a
G4-2 (C)			
G4-2 (C)	SCPC	1398.800	Progressive Farmers Network
G4-2 (C)			
G4-2 (C)	SCPC	1398.000	Oklahoma News Network
G4-2 (C)			
G4-2 (C)	SCPC	1397.200	o/a
G4-3 (C)			
G4-3 (C)	SCPC	1405.000	Mutual Broadcasting Network
G4-3 (C)			
G4-3 (C)	SCPC	1404.800	KTLK-AM, Denver, CO - talk
G4-3 (C)			
G4-3 (C)	SCPC	1404.400	ABC Radio News (Entertainment,
G4-3 (C)			Direction, Contemporary)
G4-3 (C)			
G4-3 (C)	SCPC	1404.000	o/a

G4-3 (C)			
G4-3 (C)	SCPC	1403.500	International Broadcasting Network
G4-3 (C)			
G4-3 (C)	SCPC	1403.000	Minnesota Public Radio
G4-3 (C)			
G4-3 (C)	SCPC	1402.400	KNOW-FM, Minneapolis, MN - Minnesota Public Radio
G4-3 (C)			
G4-3 (C)	SCPC	1402.100	KNOW-FM\Minnesota Public Radio
G4-3 (C)			
G4-3 (C)	SCPC	1398.500	Avalanche hockey
G4-3 (C)			
G4-3 (C)	SCPC	1398.300	WSB-AM, Atlanta - news/talk/Hawks
G4-3 (C)			
G4-3 (C)	SCPC	1397.800	Avalanche hockey
G4-3 (C)			
G4-3 (C)	SCPC	1397.500	Minnesota Talking Book Network
G4-3 (C)			
G4-3 (C)	SCPC	1397.300	WORD-AM, Spartanburg, SC - news/talk
G4-3 (C)			
G4-3 (C)	SCPC	1396.900	KRLD-AM, Dallas - Texas State Network
G4-3 (C)			
G4-3 (C)	SCPC	1396.400	Georgia News Network
G4-3 (C)			
G4-3 (C)	SCPC	1396.200	WCNN-AM, Atlanta, GA -- All Sports radio
G4-3 (C)			
G4-3 (C)	SCPC	1396.000	WHO-AM, Des Moines, IA - talk/Iowa sports
G4-3 (C)			
G4-3 (C)	SCPC	1395.800	Kentucky News Network
G4-3 (C)			
G4-3 (C)	SCPC	1395.500	American Public Radio
G4-3 (C)			
G4-3 (C)	SCPC	1395.100	o/a
G4-3 (C)			
G4-3 (C)	SCPC	1394.700	WHAS-AM, Louisville - adult contemp. /Louisville sports
G4-3 (C)			
G4-3 (C)	SCPC	1394.400	Minnesota Public Radio
G4-3 (C)			
G4-3 (C)	SCPC	1394.000	Minnesota Public Radio
G4-3 (C)			
G4-3 (C)	SCPC	1393.500	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1393.100	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1392.900	o/a
G4-3 (C)			
G4-3 (C)	SCPC	1392.700	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1392.300	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1391.900	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1391.500	Possible NPR Digital Audio Carrier UA

G4-3 (C)			
G4-3 (C)	SCPC	1391.200	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1389.000	o/a
G4-3 (C)			
G4-3 (C)	SCPC	1388.800	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1388.500	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1387.200	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1386.800	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1386.600	Possible NPR Digital Audio Carrier UA
G4-3 (C)			
G4-3 (C)	SCPC	1384.400	KOA-AM, Denver, CO - talk, Colorado Buffalos Radio Network
G4-3 (C)			
G4-3 (C)	SCPC	1384.200	WSB-AM, Atlanta, GA - news/talk
G4-3 (C)			
G4-3 (C)	SCPC	1383.700	Mutual Broadcasting Network
G4-3 (C)			Midwest Radio Sports
G4-3 (C)			
G4-3 (C)	SCPC	1383.100	Mutual Broadcasting Network
G4-3 (C)			
G4-3 (C)	SCPC	1382.900	Minnesota News Network
G4-3 (C)			
G4-3 (C)	SCPC	1382.600	Soldiers Radio Network
G4-3 (C)			
G4-3 (C)	SCPC	1382.300	Motor Racing Network
G4-3 (C)			
G4-3 (C)	SCPC	1382.000	WFAE-FM, Charlotte, NC
G4-3 (C)			
G4-3 (C)	SCPC	1381.800	WHO-AM, Des Moines, IA -- talk, Iowa News Network flagship/Iowa Hawkeye sports
G4-3 (C)			
G4-3 (C)	SCPC	1381.600	Alabama Radio Network
G4-3 (C)			
G4-3 (C)	SCPC	1377.100	In-Touch -- reading service for blind
G4-3 (C)			
G4-3 (C)	SCPC	1376.000	Kansas Audio Reader Network
G4-4 (C)			
G4-4 (C)	SCPC	1387.500	Dakota News Network
G4-4 (C)			Dakota Sports Network
G4-4 (C)			
G4-4 (C)	SCPC	1379.000	Louisiana Network
G4-4 (C)			
G4-4 (C)	SCPC	1378.800	WLAC-AM, Nashville
G4-4 (C)			
G4-4 (C)	SCPC	1377.500	Mid America News/Ag Network
G4-4 (C)			
G4-4 (C)	SCPC	1377.300	WLAC-AM, Nashville, TN - news/talk
G4-4 (C)			
G4-4 (C)	SCPC	1376.000	Data Transmissions

G4-4 (C)			
G4-4 (C)	SCPC	1375.600	KISN-AM, Salt Lake City -- sports talk
G4-5 (C)			[Global Access Telecommunication
G4-5 (C)			Services Contract Transponder]
G4-5 (C)			
G4-5 (C)			o/v
G4-5 (C)			
G4-5 (C)	ITC	6.8, 6.2	BBC Breakfast News (via FUJI LONDON)
G4-5 (C)			and other FUJI feeds (o/v) - ATIS
G4-5 (C)			(8.30) DE E890530 305 247 xxxx
G4-5 (C)			2534175301 HOMESTEAD, FL
G4-6 (C)			
G4-6 (C)	ITC	6.8	National Christian Network / Shepherd's
G4-6 (C)			Chapel -- religious programming
G4-6 (C)			
G4-6 (C)	ASC	5.58, 5.78	KBVA-FM, Bella Vista, AR -- variety
G4-6 (C)			programming
G4-6 (C)			
G4-6 (C)	ASC	6.53	WCRP, Guayama, Puerto Rico - religious
G4-6 (C)			
G4-6 (C)	ATIS	8.30	de e9332 501787xxxx wci1231004
G4-6 (C)			/ncnjohn316
G4-6 (C)			
G4-6 (C)	ASC	7.78	Easy Listening music - no ID
G4-6 (C)			
G4-6 (C)	ASC	6.20	Arkansas Radio Network
G4-6 (C)			
G4-6 (C)	ASC	7.264	Skylink Data Transmission
G4-6 (C)			
G4-6 (C)	ASC	7.398	19.2K Planet Connect Data Transmission
G4-6 (C)			
G4-6 (C)	ASC	7.94	Blank audio carrier
G4-6 (C)			
G4-6 (C)	SCPC	1346.900	WCRP, Guayama, Puerto Rico - religious
G4-7 (C)			
G4-7 (C)			[Global Access Telecommunication
G4-7 (C)			Services Contract Transponder]
G4-7 (C)			
G4-7 (C)	ITC	6.8, 6.2, 5.8	Syndication show feeds (o/v)
G4-7 (C)			
G4-7 (C)			o/v
G4-8 (C)			
G4-8 (C)	COMPR		DIGITAL VIDEO COMPRESSION using
G4-8 (C)			Scientific Atlanta MPEG UA
G4-8 (C)			- Telemundo
G4-9 (C)			
G4-9 (C)			[Global Access Telecommunication
G4-9 (C)			Services Contract Transponder]
G4-9 (C)			
G4-9 (C)			o/v
G4-9 (C)			
G4-9 (C)	ITC	6.8, 6.2, 5.8	Syndication show feeds (o/v)
G4-10 (C)			
G4-10 (C)	V2+		WJLA, Washington -- PrimeTime 24 East
G4-10 (C)			ABC affiliate

G4-10 (C)	ATIS	7.10	E2505 1003145207 703 642 XXXX WIT
G4-10 (C)			WASH
G4-11 (C)			[Global Access Telecommunication
G4-11 (C)			Services Contract Transponder]
G4-11 (C)			
G4-11 (C)			o/v
G4-11 (C)	ITC	6.8, 6.2, 5.8	Syndication show feeds (o/v)
G4-11 (C)			
G4-11 (C)	ITC	6.8, 6.2	North Carolina Open Net (o/v) --
G4-11 (C)			ATIS(7.10) e5486 1004145434 919 834
G4-11 (C)			xxxx capitolsat
G4-12 (C)			KEYSTONE COMMUNICATIONS OCCASIONAL
G4-12 (C)			VIDEO CONTRACT CHANNEL - ATIS(8.30)
G4-12 (C)			DE E2565 213 468 xxxx 2534175224
G4-12 (C)			
G4-12 (C)			o/v
G4-12 (C)			
G4-12 (C)	ITC	6.8, 6.2, 5.8	Syndication show feeds (o/v)
G4-13 (C)			
G4-13 (C)			o/v
G4-13 (C)	ITC	6.8, 6.2, 5.8	Syndication show feeds (o/v)
G4-14 (C)	V2+	6.80, 6.20	WRAL, Raleigh, NC -- PrimeTime 24
G4-14 (C)			East CBS affiliate
G4-14 (C)			
G4-14 (C)	ATIS	7.10	de e920645 919850xxxx wci1239004 /
G4-15 (C)	ITC	6.80	World Harvest TV Network
G4-15 (C)			(WHMB-TV, Indianapolis, IN) --
G4-15 (C)			religious
G4-15 (C)			
G4-15 (C)	ASC	6.20	Director's Cues (occasional)
G4-15 (C)			
G4-15 (C)	ATIS	7.10	de e6320 219291xxxx 2534175060
G4-15 (C)			lesea sbn
G4-15 (C)			
G4-15 (C)	ASC	7.46	WHRI Radio -- WORLD HARVEST
G4-15 (C)			INTERNATIONAL RADIO
G4-15 (C)			
G4-15 (C)	ASC	7.55	WHRI Radio -- WORLD HARVEST
G4-15 (C)			INTERNATIONAL RADIO
G4-15 (C)			
G4-15 (C)	ASC	7.64	WHRI Radio -- WORLD HARVEST
G4-15 (C)			INTERNATIONAL RADIO
G4-15 (C)			
G4-15 (C)	ASC	5.58/5.78	WHME-FM 103.1, South Bend, IN
G4-16 (C)	VC1	6.2/6.8	CBS Contract Channel -- Pacific time
G4-16 (C)			zone feed UA
G4-16 (C)			
G4-16 (C)	ASC	5.80	Data Transmissions
G4-17 (C)	VC1	6.2/6.8	CBS Contract Channel -- Eastern time

G4-17 (C)			zone feed UA (o/v)
G4-17 (C)			
G4-17 (C)	ATIS	7.10	de 4730 203965xxxx wci1231045 /
G4-17 (C)			
G4-17 (C)	ASC	5.80	Data Transmissions
G4-17 (C)			
G4-17 (C)	ITC	5.8/6.2, 6.8	Syndication Show feeds (o/v)
G4-18 (C)	VC1	6.2/6.8	CBS Contract Channel -- various news
G4-18 (C)			feeds and programming (o/v) UA --
G4-18 (C)			ATIS(7.10) de e4730 203965xxxx
G4-18 (C)			wci1231045 / (typical ATIS)
G4-18 (C)			
G4-18 (C)	ITC	6.8/6.2, 5.8	Syndication Show Feeds (o/v)
G4-19 (C)	VC1	6.2/6.8	CBS Contract Channel -- Eastern time
G4-19 (C)			zone feed UA (o/v)
G4-19 (C)			
G4-19 (C)	ATIS	7.10	de 4730 203965xxxx wci1231045 /
G4-19 (C)			
G4-19 (C)	ASC	5.80	Data Transmissions
G4-19 (C)			
G4-19 (C)	ITC	6.8/6.2, 5.8	Syndication show feeds (o/v)
G4-20 (C)	VC1	6.2/6.8	CBS Contract Channel -- Eastern time
G4-20 (C)			zone feed UA
G4-20 (C)			
G4-20 (C)	ATIS	7.10	de e4730 203965xxxx wci1231045 /
G4-20 (C)			
G4-20 (C)	ASC	5.80	Data Transmissions
G4-20 (C)			
G4-20 (C)	ASC	7.41	Program audio
G4-21 (C)	ITC	5.8/6.2, 6.8	Warner Brothers Domestic Television
G4-21 (C)			Distribution -- syndication show
G4-21 (C)			feed service -- ATIS(7.10) de e881143
G4-21 (C)			213870xxxx 2534175125 idb comm la (o/v)
G4-21 (C)			-- [VBI: (pacific time zone clock
G4-21 (C)			readout)]
G4-21 (C)	ITC	5.8, 6.2/6.8	WB Network (o/v)
G4-21 (C)			
G4-21 (C)	VC1	6.2/6.8	CBS Contract Channel -- various news
G4-21 (C)			feeds and programming (o/v) UA --
G4-21 (C)			ATIS(7.10) de e4730 203965xxxx
G4-21 (C)			wci1231045 / (typical ATIS)
G4-22 (C)	V2+		WNBC, New York -- PrimeTime 24 East NBC
G4-22 (C)			affiliate
G4-22 (C)			
G4-22 (C)	ATIS	7.10	E5740 1202132439 908 969 XXXX SA750
G4-22 (C)			ATIS
G4-22 (C)			
G4-22 (C)	ASC	6.20	Blank audio carrier
G4-22 (C)			
G4-22 (C)	ASC	5.80	WCNJ-FM, Hazlet, NJ - "Skylark
G4-22 (C)			Radio Network" - Oldies format

G4-23 (C)	COMPR		SCOLA DIGITAL VIDEO COMPRESSION
G4-23 (C)			using the Wegener DVR95
G4-23 (C)			- SCOLA CHANNEL ONE - TV News from
G4-23 (C)			many International countries
G4-23 (C)			- SCOLA CHANNEL TWO - variety and
G4-23 (C)			entertainment programs from
G4-23 (C)			many International countries
G4-23 (C)			- World Radio Network (audio)
G4-23 (C)			- Radio France International (audio)
G4-23 (C)			
G4-23 (C)			o/v (users include Blue and White
G4-23 (C)			Sports and the Latter Day Saints
G4-23 (C)			religion broadcasts)
G4-24 (C)	ITC	6.2/6.8	CBS Newsnet
G4-24 (C)			
G4-24 (C)	ATIS	7.10	DE E4730 203965xxxx WCI1231045 /
G4-24 (C)			
G4-24 (C)	ASC	5.80	Data Transmissions

1.75 galaxy-4-ku

Hughes Communications Galaxy 4 - Ku-Band

99 degrees West longitude

NORAD: 22694

Satellite Type: Three-axis stabilized

Launched: June 24, 1993 (Ariane)

Inclination: .0091 degrees

Transponder Power: 24 transponders - 50 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq
T01 (H)	14020	11720	970
T02 (V)	14050	11750	1000
T03 (H)	14050	11750	1000
T04 (H)	14080	11780	1030
T05 (V)	14110	11810	1060
T06 (H)	14110	11810	1060
T07 (H)	14140	11840	1090
T08 (V)	14170	11870	1120
T09 (H)	14170	11870	1120
T10 (H)	14200	11900	1150
T11 (V)	14230	11930	1180
T12 (H)	14230	11930	1180
T13 (H)	14260	11960	1210
T14 (V)	14290	11990	1240
T15 (H)	14290	11990	1240

T16 (H)	14320	12020	1270
T17 (V)	14350	12050	1300
T18 (H)	14350	12050	1300
T19 (H)	14380	12080	1330
T20 (V)	14410	12110	1360
T21 (H)	14410	12110	1360
T22 (H)	14440	12140	1390
T23 (V)	14470	12170	1420
T24 (H)	14470	12170	1420

Half-Transponder Note: Vertically polarized transponders are theoretically the only transponders that can be made into half transponders. The downlink frequencies above are center frequencies for a full transponder. To get the approximate lower half transponder downlink frequency, subtract 13.5 MHz from the center full transponder frequency. To get the approximate upper half transponder downlink frequency, add 13.5 MHz to the center full transponder frequency.

Cross-strapping: C-band transponders 18 and 24 can cross-strap to Ku-band transponders 17 and 23.

G4-1 (KU)	SCPC		Data Transmissions
G4-1 (KU)			
G4-1 (KU)	SCPC	959.000	Satellite Music Network - Real Country
G4-1 (KU)			
G4-1 (KU)	SCPC	959.200	Satellite Music Network - Real Country
G4-1 (KU)			
G4-1 (KU)	FM3		WEFAX Transmissions
G4-1 (KU)			
G4-1 (KU)	FM3		Accu-Weather (for subscribing stations)
G4-2 (KU)			
G4-2 (KU)	SCPC		Data Transmission
G4-3 (KU)			
G4-3 (KU)	FM2	.150	MUZAK (TM) voice mirrors
G4-3 (KU)			
G4-3 (KU)	FM2	.275, 2.19	MUZAK (TM) services
G4-3 (KU)		1.355, 1.470	
G4-3 (KU)		1.59, 1.71	
G4-3 (KU)		1.83, 1.945	
G4-3 (KU)		2.43, 2.67	
G4-3 (KU)		2.55, 2.79	
G4-3 (KU)		3.33, 2.31	
G4-3 (KU)		3.60, .390	
G4-3 (KU)		.510	
G4-3 (KU)			
G4-3 (KU)	FM2	.710, .795	In Store Audio Network ads
G4-3 (KU)		.880, 3.42	
G4-3 (KU)		3.69, 3.78	
G4-3 (KU)		3.86	
G4-3 (KU)			
G4-3 (KU)	FM2	1.065, 1.155	Blank audio carriers
G4-3 (KU)		2.07, .980	
G4-3 (KU)		3.04, 3.16	
G4-3 (KU)		1.245, 3.78	
G4-3 (KU)		3.96, .15, 3.86	
G4-3 (KU)		4.08, 2.55, 2.67	

G4-3 (KU)			
G4-3 (KU)	FM2	3.51	Generic News (o/a)
G4-3 (KU)			
G4-3 (KU)	FM2	3.09	Data Transmission
G4-4 (KU)	FM2	.470, .575	Data Transmissions
G4-4 (KU)		.627, .740	
G4-4 (KU)		1.11, 1.225	
G4-4 (KU)			
G4-4 (KU)	FM2	.350, 1.350	Blank audio carriers
G4-4 (KU)		2.10	
G4-5 (KU)			(none)
G4-6 (KU)			Videoplus CONTRACT TRANSPONDER
G4-6 (KU)			
G4-6 (KU)			o/v
G4-7 (KU)	ITC	6.8, 6.2	Chinese Television Network
G4-7 (KU)			("Chung-Ten") - Chinese/Taiwan news
G4-7 (KU)			service
G4-7 (KU)			
G4-7 (KU)	ATIS	8.30	DE E910117 818 364 xxxx 2534175224
G4-7 (KU)			213-468-xxxx
G4-8 (KU)			o/v (half transponders commonly used)
G4-9 (KU)	DATA		Data Transmissions?
G4-10 (KU)	COMPR		DIGITAL VIDEO COMPRESSION using
G4-10 (KU)			Scientific Atlanta MPEG UA
G4-10 (KU)			- CNN Airport Network
G4-11 (KU)			o/v (half-transponders sometimes used)
G4-12 (KU)	ITC	6.40	Channel One (o/v) -- ASC(5.80) data
G4-12 (KU)			transmissions -- ATIS(8.30) DE E859951
G4-12 (KU)			213 468 xxxx 2534175278 KEYSTONE LA
G4-12 (KU)			
G4-12 (KU)			o/v
G4-12 (KU)			
G4-12 (KU)	ITC	6.8	Microsoft TV (o/v)
G4-12 (KU)			
G4-12 (KU)	ITC	6.8	FOX SNG feeds (o/v)
G4-13 (KU)			VideoPlus CONTRACT TRANSPONDER
G4-13 (KU)			
G4-13 (KU)			o/v
G4-13 (KU)			
G4-13 (KU)	ITC	6.8	FOX SNG feeds (o/v)
G4-14 (KU)			o/v (half-transponders sometimes used)
G4-15 (KU)	COMPR		Video Compression Transponder?
G4-16 (KU)	FM2	.150, .270	In-Store Audio Networks
G4-16 (KU)		.390, .755	

G4-16 (KU)		.850, .990	
G4-16 (KU)		1.11, 1.350	
G4-16 (KU)		1.59, 1.71	
G4-16 (KU)		1.45, 1.965	
G4-16 (KU)		1.80, 2.07	
G4-16 (KU)			
G4-16 (KU)	FM2	.645, 2.35	Data Transmissions
G4-16 (KU)		3.735, 3.345	
G4-16 (KU)		2.14, 2.27	
G4-16 (KU)		2.70, 3.205	
G4-16 (KU)		3.245, 3.265	
G4-16 (KU)			
G4-16 (KU)	FM2	1.23, 3.28	Blank audio carriers
G4-16 (KU)		2.89	
G4-16 (KU)			
G4-17 (KU)	ITC	6.8, 6.2	CBS Newsnet collection channel (o/v)
G4-17 (KU)			-- half transponders frequently used
G4-17 (KU)			
G4-18 (KU)	SCR	6.8, 6.2	Hong Kong TVB Jade Channel (scrambled
G4-18 (KU)			with unknown system)
G4-18 (KU)			
G4-18 (KU)	ATIS	7.10	540491 1104540491 310 802 xxxx SA750
G4-18 (KU)			ATIS
G4-18 (KU)			
G4-19 (KU)	COMPR		Video Compression transponder?
G4-19 (KU)			
G4-20 (KU)			o/v (half transponders sometimes used)
G4-20 (KU)			
G4-21 (KU)	ITC	6.8, 6.2	Asian American Network -- asian
G4-21 (KU)			programming (o/v) -- ATIS(7.10) E881219
G4-21 (KU)			1102130368 708 674 xxxx MRC TI
G4-21 (KU)			
G4-22 (KU)	COMPR		DIGITAL VIDEO COMPRESSION using
G4-22 (KU)			G.I. Digicipher
G4-22 (KU)			- Family Net - religious
G4-22 (KU)			
G4-23 (KU)	ITC	6.8, 6.2	CBS Newsnet collection channel (o/v)
G4-23 (KU)			- half transponders frequently used
G4-23 (KU)			
G4-24 (KU)	OAK		The Filipino Channel
G4-24 (KU)			
G4-24 (KU)	ASC	6.8	DZMM Radyo Patrol
G4-24 (KU)			
G4-24 (KU)	ASC	6.2	Blank audio carrier
G4-24 (KU)			
G4-24 (KU)	ATIS	8.30	de e900455 510525xxxx 2534175242
G4-24 (KU)			spectrum sat inc

1.76 galaxy-5

Hughes Communications Galaxy 5 - C-Band

125 degrees West longitude

NORAD: 21906

Satellite Type: Spin stabilized

Launched: March 13, 1992 (Atlas I)

Inclination: .0114 degrees

Transponder Power: 24 transponders - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14
15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16
17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24
G5-1 (C)	V2+		Disney Channel East	
G5-1 (C)				
G5-1 (C)	ASC	6.80	Blank audio carrier	
G5-1 (C)				
G5-1 (C)	ATIS	7.10	E950069 1306439673 818 973 xxxx DISNEY	
G5-1 (C)			CH	
G5-2 (C)	V2+		Playboy At Night	
G5-2 (C)				
G5-2 (C)	ASC	5.58/5.76	KLON-FM, Long Beach, CA -- jazz	
G5-2 (C)				
G5-2 (C)	ATIS	7.10	DE E2941 818 840 xxxx WCI1239037	
G5-2 (C)			/4MEDIACO	
G5-3 (C)	ITC	6.80	Trinity Broadcasting -- religious	
G5-3 (C)				
G5-3 (C)	ASC	5.58/5.78	Trinity Broadcasting Radio Service	
G5-3 (C)				

G5-3 (C)	ATIS	7.10	de kf86 714730xxxx wci1231155 /tbn
G5-3 (C)			net
G5-3 (C)			
G5-3 (C)	ASC	7.30	Storyvision -- Graphic/Text Stories
G5-3 (C)			(data transmission)
G5-3 (C)			
G5-3 (C)	ASC	8.00	Trinity Radio Network Cue Channel
G5-3 (C)			
G5-3 (C)	ASC	5.96	Spanish Language SAP for Trinity
G5-3 (C)			Broadcasting Television Service --
G5-3 (C)			occasionally used
G5-3 (C)			
G5-3 (C)	ASC	7.74	Audio tone
G5-4 (C)			
G5-4 (C)	V2+		Sci Fi Channel
G5-4 (C)			
G5-4 (C)	ASC	6.20	Audio tone
G5-4 (C)			
G5-4 (C)	ATIS	7.10	DE E930435 718983xxxx MI298719
G5-4 (C)			/IDBCOMMNY
G5-5 (C)			
G5-5 (C)	V2+		Cable News Network
G5-5 (C)			
G5-5 (C)	ASC	6.20	Blank audio carrier
G5-5 (C)			
G5-5 (C)	ATIS	7.10	de e2001 404885xxxx 2534175031
G5-5 (C)			
G5-5 (C)	ASC	7.25	Data Transmissions
G5-5 (C)			
G5-5 (C)	ASC	7.35	Blank audio carrier
G5-5 (C)			
G5-5 (C)	ASC	7.58	CNN Radio Network
G5-5 (C)			
G5-5 (C)	DATA		X-Press X-Change
G5-6 (C)			
G5-6 (C)	V2+		TBS -- Turner Broadcasting System
G5-6 (C)			
G5-6 (C)	ATIS	7.10	wk42 1003145253 404 949 xxxx lmc satcom
G5-6 (C)			
G5-6 (C)	ASC	6.44	Brother Stair - religious
G5-6 (C)			
G5-6 (C)	ASC	6.80	World Radio Network 1
G5-6 (C)			
G5-6 (C)	ASC	6.20	World Radio Network 2
G5-6 (C)			
G5-6 (C)	ASC	7.38	Audio Tone
G5-6 (C)			
G5-6 (C)	TELE		CNN at Work (WST)
G5-7 (C)			
G5-7 (C)	V2+		WGN, Chicago -- Superstation
G5-7 (C)			
G5-7 (C)	ASC	5.48	SuperGuide Data Transmissions
G5-7 (C)			
G5-7 (C)	ASC	5.88, 6.58	Data Transmissions
G5-7 (C)			
G5-7 (C)	ASC	5.76	Blank audio carrier
G5-7 (C)			

G5-7 (C)	ASC	5.96	Data Transmissions
G5-7 (C)			
G5-7 (C)	ASC	6.30/6.48	WFMT, Chicago -- Classical Music
G5-7 (C)			
G5-7 (C)	ASC	6.80	Yesterday USA - old-time radio service
G5-7 (C)			
G5-7 (C)	ATIS	7.10	de e2981 708534xxxx 2534175063 chgo
G5-7 (C)			tlprt
G5-7 (C)			
G5-7 (C)	TELE		Possible Teletext service
G5-8 (C)	V2+		HBO (West) -- Home Box Office
G5-8 (C)			premium movie service
G5-8 (C)			
G5-8 (C)	ASC	6.80	Blank audio carrier
G5-8 (C)			
G5-8 (C)	ATIS	7.10	E930421 1308137106 516 361 xxxx HBO W
G5-9 (C)	V2+		ESPN -- sports
G5-9 (C)			
G5-9 (C)	ASC	6.20	Blank audio carrier
G5-9 (C)			
G5-9 (C)	ASC	5.80	Background Audio for some
G5-9 (C)			ESPN programming
G5-9 (C)			
G5-9 (C)	ATIS	7.10	de wq35 203585xxxx wci1231174 /espn
G5-9 (C)			inc
G5-9 (C)			
G5-9 (C)	ASC	7.38	Blank audio carrier
G5-10 (C)	ITC	6.8, 5.58/5.78	MOR Music Television
G5-10 (C)			
G5-10 (C)	ASC	6.20	Blank audio carrier
G5-10 (C)			
G5-10 (C)	ATIS	8.30	112SSA 615227XXXX 603555XXXX
G5-10 (C)			800581XXXX
G5-11 (C)	V2+		The Family Channel (East)
G5-11 (C)			
G5-11 (C)	ASC	6.12	CBN Radio Network
G5-11 (C)			
G5-11 (C)	ASC	6.80	Program audio (o/a)
G5-11 (C)			
G5-11 (C)	ATIS	7.10	wd 58 1310238461 804 523 xxxx cbn
G5-11 (C)			satcm
G5-12 (C)	V2+		The Discovery Channel (West)
G5-12 (C)			
G5-12 (C)	ASC	6.8	Barker Channel
G5-12 (C)			
G5-12 (C)	ATIS	7.10	de e4730 203965xxxx wci1231045 /
G5-13 (C)	V2+		Consumer News and Business
G5-13 (C)			Channel (CNBC) - business
G5-13 (C)			news channel
G5-13 (C)			
G5-13 (C)	ASC	6.80	Barker Channel -- blank audio carrier

G5-13 (C)			at times
G5-13 (C)			
G5-13 (C)	ATIS	7.10	E872650 718983xxxx 2755555553
G5-13 (C)			
G5-13 (C)	ASC	7.38	Blank audio carrier
G5-13 (C)			
G5-13 (C)	TELE		Stock quotation data (NABTS)
G5-14 (C)	V2+		ESPN2 -- sports programming
G5-14 (C)			
G5-14 (C)	ASC	6.2, 6.8	Blank audio carriers
G5-14 (C)			
G5-14 (C)	ATIS	7.10	de wq35 203585xxxx wcil231175
G5-14 (C)			/espn inc
G5-15 (C)	V2+		HBO (East) -- Home Box Office
G5-15 (C)			premium movie service
G5-15 (C)			
G5-15 (C)	ATIS	7.10	E930421 1308137163 516 361 xxxx HBO E
G5-15 (C)			
G5-15 (C)	ASC	6.8	Blank audio carrier
G5-16 (C)	V2+		Cinemax (West) -- Cinemax
G5-16 (C)			premium movie service
G5-16 (C)			
G5-16 (C)	ASC	6.80	Blank audio carrier
G5-16 (C)			
G5-16 (C)	ATIS	7.10	e930421 1311137548 516 361 xxxx hbo
G5-16 (C)			max w
G5-17 (C)	V2+		Turner Network Television
G5-17 (C)			
G5-17 (C)	ATIS	7.10	de e2001 404885xxxx 2534175039
G5-17 (C)			
G5-17 (C)	ASC	7.38	Blank audio carrier
G5-17 (C)			
G5-17 (C)	ASC	7.58	Blank audio carrier
G5-18 (C)	V2+		The Nashville Network
G5-18 (C)			
G5-18 (C)	ASC	6.20	Blank audio carrier
G5-18 (C)			
G5-18 (C)	ATIS	7.10	e4006 1004145761 615 871 xxxx nash
G5-18 (C)			netwk
G5-18 (C)			
G5-18 (C)	ASC	7.38/7.58	WWTN-FM, Manchester, TN - talk radio
G5-19 (C)	V2+		USA Network (East) -- variety
G5-19 (C)			programming
G5-19 (C)			
G5-19 (C)	ASC	6.2	Audio Tone/Spanish language SAP
G5-19 (C)			
G5-19 (C)	ATIS	7.10	DE E930435 718 983 xxxx MI298717
G5-19 (C)			/IDBCOMMNY
G5-20 (C)	V2+	5.58/5.78, 6.8	Black Entertainment TV
G5-20 (C)			

G5-20 (C)	ASC	5.96	Backhauls (o/a)
G5-20 (C)			
G5-20 (C)	ASC	6.12	Backhauls (o/a)
G5-20 (C)			
G5-20 (C)	ASC	6.32	Blank audio carrier
G5-20 (C)			
G5-20 (C)	ASC	6.50	Blank audio carrier
G5-20 (C)			
G5-20 (C)	ASC	7.38	Blank audio carrier
G5-20 (C)			
G5-20 (C)	ASC	7.78	Blank audio carrier
G5-21 (C)	ITC	6.8	Mind Extension University -- College
G5-21 (C)			courses for obtaining a degree at
G5-21 (C)			home
G5-21 (C)			
G5-21 (C)	ASC	5.04/7.74	SuperAudio -- American
G5-21 (C)			Country Favorites
G5-21 (C)			
G5-21 (C)	ASC	5.22/5.40	SuperAudio -- Prime Demo
G5-21 (C)			
G5-21 (C)	ASC	5.58/5.76	SuperAudio -- Soft Sounds
G5-21 (C)			
G5-21 (C)	ASC	6.3/6.48	SuperAudio -- Classical
G5-21 (C)			Collections
G5-21 (C)			
G5-21 (C)	ASC	5.96/6.12	SuperAudio -- Light and
G5-21 (C)			Lively Rock
G5-21 (C)			
G5-21 (C)	ATIS	7.10	de kt43 303697xxxx wci1231041
G5-21 (C)			/j e s t
G5-21 (C)			
G5-21 (C)	ASC	7.38/7.58	SuperAudio -- New Age of Jazz
G5-21 (C)			
G5-21 (C)	ASC	8.10/8.30	SuperAudio -- Classic Hits
G5-22 (C)	V2+		CNN Headline News
G5-22 (C)			
G5-22 (C)	ASC	6.20	Blank audio carrier
G5-22 (C)			
G5-22 (C)	ATIS	7.10	de e2001 404885xxxx 2534175032
G5-22 (C)			
G5-22 (C)	ASC	7.35	Blank audio carrier
G5-22 (C)			
G5-22 (C)	ASC	7.25	Data Transmission
G5-22 (C)			
G5-22 (C)	ASC	7.58	CNN Radio Network -- contains
G5-22 (C)			just the audio of CNN Headline
G5-22 (C)			News
G5-22 (C)			
G5-22 (C)	TELE		Service type unknown (WST or NABTS)
G5-23 (C)	V2+		Arts and Entertainment TV
G5-23 (C)			Network
G5-23 (C)			
G5-23 (C)	ASC	6.20	Audio tone
G5-23 (C)			

G5-23 (C)	ASC	6.80	Barker Channel
G5-23 (C)			
G5-23 (C)	ATIS	7.10	de e4730 203965xxxxx wci1231045 /
G5-24 (C)	COMPR		Viacom DIGITAL VIDEO COMPRESSION
G5-24 (C)			using SCIENTIFIC ATLANTA MPEG UA
G5-24 (C)			- Showtime (East)
G5-24 (C)			- The Movie Channel (West)
G5-24 (C)			- Sundance Channel

1.77 galaxy-6

Hughes Communications Galaxy 6 - C-Band

74 degrees West longitude

NORAD: 20873

Satellite Type: Spin stabilized

Launched: October 12, 1990 (Ariane)

Inclination: .0189 degrees

Transponder Power: 24 transponders - 10 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14
15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16
17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24

G6-1 (C)	ITC	6.2, 6.8	Tokyo Broadcasting Service New
G6-1 (C)			York City bureau -- TBS contract
G6-1 (C)			channel
G6-1 (C)	ATIS	7.10	E872650 718 983 xxxx 2775555553
G6-2 (C)			[Global Access Telecommunication
G6-2 (C)			Services Contract Transponder]
G6-2 (C)			
G6-2 (C)			o/v
G6-3 (C)	SCPC	1405.600	KIRO-AM, Seattle, WA -- talk
G6-3 (C)			
G6-3 (C)	SCPC	1405.400	Sports Byline USA/Sports Byline Weekend
G6-3 (C)			
G6-3 (C)	SCPC	1404.600	Talk America Radio Network
G6-3 (C)			
G6-3 (C)	SCPC	1403.800	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1403.200	Motor Racing Network
G6-3 (C)			
G6-3 (C)	SCPC	1400.800	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1397.200	WTMJ-AM, Milwaukee - talk
G6-3 (C)			
G6-3 (C)	SCPC	1393.400	WGN-AM Chicago/Interstate Radio Network
G6-3 (C)			
G6-3 (C)	SCPC	1393.200	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1392.700	WGN-AM/Interstate Radio Network
G6-3 (C)			
G6-3 (C)	SCPC	1391.600	XPRS-AM -- spanish language
G6-3 (C)			
G6-3 (C)	SCPC	1388.900	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1387.100	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1386.700	Michigan News Network
G6-3 (C)			
G6-3 (C)	SCPC	1386.500	WJR-AM, Detroit -- talk
G6-3 (C)			
G6-3 (C)	SCPC	1386.300	Illinois News Network
G6-3 (C)			
G6-3 (C)	SCPC	1385.800	WMAQ-AM, Chicago, IL - news
G6-3 (C)			
G6-3 (C)	SCPC	1385.100	For the People Radio Network
G6-3 (C)			
G6-3 (C)	SCPC	1384.200	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1383.800	KJR-AM, Seattle - sports talk
G6-3 (C)			
G6-3 (C)	SCPC	1377.900	o/a
G6-3 (C)			
G6-3 (C)	SCPC	1375.400	USA Radio Network
G6-3 (C)			
G6-3 (C)	SCPC	1374.100	Northwest Direct -- news/talk

G6-4 (C)	BMAC/VC1/ITC	6.8, 6.2		Hughes Television Network -- occasional
G6-4 (C)				sports/dog/horse racing feeds
G6-4 (C)				
G6-4 (C)				o/v
G6-4 (C)				
G6-4 (C)	ITC	6.8, 6.2		Virginia Educational Satellite Network
G6-4 (C)				(VESN) (o/v)
G6-5 (C)	ITC	6.2, 6.8		NHK Japan -- New York to Tokyo
G6-5 (C)				feed circuit. LEITCH on some ABC
G6-5 (C)				programming
G6-5 (C)				
G6-5 (C)	ATIS	7.10		de e3943 718827xxxx 2534175210 hc
G6-5 (C)				spk ny
G6-6 (C)	ITC	6.8, 6.2		TV Japan - NHK programming from Japan
G6-6 (C)				(6.8 English translation, 6.2 Japanese)
G6-6 (C)	ATIS	7.10		E2178 1312430422 805 524 xxxx
G6-6 (C)				FILLMORE2B
G6-6 (C)				
G6-7 (C)	ITC	6.8, 6.2		National Empowerment TV Network
G6-7 (C)				
G6-7 (C)	ATIS	7.10		DE E3321 213468XXXX 2534175279
G6-7 (C)				
G6-8 (C)				(none)
G6-9 (C)	V2+			MuchMusic [United States version] --
G6-9 (C)				Canadian music video service
G6-9 (C)	ATIS	8.30		wl 94 1203133487 516 328 xxxx rnc
G6-9 (C)				uplnk
G6-9 (C)				
G6-9 (C)	ASC	7.70		Control Room/Studio Audio
G6-9 (C)				
G6-10 (C)	ITC	6.8, 6.2		Arab Network of America (ANA)
G6-10 (C)				
G6-10 (C)	ASC	5.80		ANA Radio Network/WNTL-AM, Indian Head,
G6-10 (C)				MD
G6-11 (C)	ITC	6.8, 6.2		FOX News Feeds (o/v)
G6-12 (C)				
G6-12 (C)				
G6-12 (C)	COMPR			DIGITAL VIDEO COMPRESSION using
G6-12 (C)				G.I. Digicipher (UA)
G6-12 (C)				- TV Asia
G6-13 (C)	ITC	6.8		Radiotelevisao Portuguesa
G6-13 (C)				Internacional (RTPi) - Portuguese
G6-13 (C)				programming
G6-13 (C)				
G6-13 (C)	ATIS	8.30		CJ933 819687XXXX 4875555553 DLT ES
G6-13 (C)				
G6-14 (C)	ITC	6.80, 6.20		Cornerstone TV (WPCB-TV,
G6-14 (C)				Pittsburgh) -- religious
G6-14 (C)	ATIS	7.10		E920184 1108147296 412 824 XXXX CTV
G6-14 (C)				
G6-14 (C)				

G6-14 (C)	ASC	5.80	American Freedom Network
G6-14 (C)			
G6-14 (C)	ASC	7.56	Eagle Radio Network
G6-15 (C)	V2+		Midwest Sports Channel -- Regional
G6-15 (C)			sports network for the midwestern
G6-15 (C)			United States
G6-15 (C)			
G6-15 (C)	ASC	6.2	WCCO-AM, Minneapolis, MN -- Talk
G6-15 (C)			radio
G6-15 (C)			
G6-15 (C)	ASC	5.78	Data Transmissions
G6-15 (C)			
G6-15 (C)	ATIS	7.10	DE E4394 612330XXXX WCI1231135 /
G6-16 (C)			o/v
G6-17 (C)			KEYSTONE COMMUNICATIONS OCCASIONAL
G6-17 (C)			VIDEO CONTRACT CHANNEL - ATIS (8.30)
G6-17 (C)			DE E2565 213 468 xxxx 2534175224
G6-17 (C)			
G6-17 (C)			o/v
G6-17 (C)			
G6-17 (C)	ITC	6.80	MSG II - blackout channel (o/v)
G6-18 (C)			[Global Access Telecommunication
G6-18 (C)			Services Contract Transponder]
G6-18 (C)			
G6-18 (C)			o/v
G6-19 (C)	ITC	6.2, 6.8	The University Network (Dr. Gene
G6-19 (C)			Scott) -- religious
G6-19 (C)			
G6-19 (C)	ATIS	7.10	E859957 1104146774 818 246 xxxx
G6-20 (C)	V2+		CNN Headline News "clean feed" UA
G6-20 (C)			-- sometimes fixed key or ITC
G6-21 (C)	BMAC/VC1/ITC		Hughes Television Network -- occasional
G6-21 (C)			sports/dog/horse racing feeds
G6-21 (C)			
G6-21 (C)			o/v
G6-22 (C)			o/v
G6-23 (C)	ITC	6.2/6.8, 7.48	Worship TV -- religious
G6-23 (C)			
G6-23 (C)	ATIS	7.10	E920199 813 536 xxxx 2288555552
G6-23 (C)			
G6-23 (C)	ASC	8.10	Marinet Broadcasting
G6-24 (C)			o/v
G6-24 (C)			
G6-24 (C)	ITC	6.8, 6.2	Virginia Educational Satellite Network
G6-24 (C)			(VESN) (o/v)

1.78 galaxy-7

Hughes Communications Galaxy 7 - C-band

91 degrees West longitude

NORAD: 22205

Satellite Type: Three-axis stabilized

Launched: October 15, 1992 (Ariane)

Inclination: .0164 degrees

Transponder Power: 24 transponders - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14
15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16
17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24

Cross-strapping: C-band transponders 18 and 24 can cross-strap to Ku-band transponders 17 and 23.

G7-1 (C)	DATA		Sega Channel - interactive digital
G7-1 (C)			data transmissions on this channel UA
G7-2 (C)	VC1	6.2/6.8	CBS Contract Channel -- Pacific Time
G7-2 (C)			Zone affiliate programming -- sometimes
G7-2 (C)			ITC (UA)
G7-2 (C)	ATIS	7.10	de wb20 201764xxxx 2534175300

G7-2 (C)			glenwood 2
G7-2 (C)			
G7-2 (C)	ASC	5.80	Data Transmissions
G7-2 (C)			
G7-2 (C)	ASC	7.38	Blank audio carrier
G7-3 (C)	V2+		Action Pay-Per-View
G7-3 (C)			
G7-3 (C)	ATIS	7.10	de fcc sgn 213870xxxx 2534175110 idb
G7-3 (C)			comm la
G7-3 (C)			
G7-3 (C)	ASC	6.8, 6.2	Background Sounds/Spanish Language SAP
G7-3 (C)			(when available)
G7-4 (C)			
G7-4 (C)	ITC	6.8, 5.8	fx -- Fox Retransmission Consent
G7-4 (C)			Channel -- Eastern Time Zone Channel
G7-4 (C)			[program audio uses matrix mode]
G7-4 (C)			
G7-4 (C)	ASC	6.20	Blank audio carrier
G7-4 (C)			
G7-4 (C)	ATIS	7.10	de fcc sgn 213870xxxx 2534175185 idb
G7-4 (C)			comm la
G7-5 (C)			
G7-5 (C)	ITC	6.8, 5.8	fx -- Fox Retransmission Consent
G7-5 (C)			Channel -- Pacific Time Zone Channel
G7-5 (C)			[program audio uses matrix mode]
G7-5 (C)			
G7-5 (C)	ASC	6.20	Blank audio carrier
G7-5 (C)			
G7-5 (C)	ATIS	7.10	de e7754 213870xxxx 2534175061 idb
G7-5 (C)			comm la
G7-6 (C)			
G7-6 (C)	V2+		Game Show Network
G7-6 (C)			
G7-6 (C)	ASC	6.8, 6.2	Blank audio carriers
G7-6 (C)			
G7-6 (C)	ATIS	7.10	37SSA95 1311430296 310 280 xxxx GSNNET
G7-7 (C)			
G7-7 (C)	V2+	6.8	The Golf Channel
G7-7 (C)			
G7-7 (C)	ASC	6.20	Blank audio carrier
G7-7 (C)			
G7-7 (C)	ATIS	7.10	e940479 1312430321 407 248 xxxx sa750
G7-7 (C)			atis
G7-8 (C)			o/v
G7-9 (C)			o/v
G7-10 (C)			
G7-10 (C)	ITC	6.8, 6.2	United Arab Emirates (UAE) TV Dubai
G7-10 (C)			-- arabic programming
G7-10 (C)			
G7-10 (C)	ASC	5.80	Radio Maria
G7-10 (C)			
G7-10 (C)	ASC	7.48	Radio Dubai
G7-10 (C)			
G7-10 (C)	ASC	8.03	Religious music w/foreign language D.J.

G7-10 (C)			
G7-10 (C)	ATIS	7.1	DE E860008 201 673 xxxx WCI1231336
G7-10 (C)			/KBSORANGE
G7-11 (C)	ITC	6.8, 6.2	Estacion Montellano (Cayey, Puerto Rico) -- religious (o/v) -- ATIS(7.10)
G7-11 (C)			E930493 809 263 xxxx 3215555553
G7-11 (C)			
G7-11 (C)	ITC	6.80	Microsoft TV (o/v)
G7-12 (C)			(none)
G7-13 (C)	COMPR		DIGITAL VIDEO COMPRESSION using
G7-13 (C)			G.I. Digicipher (UA)
G7-13 (C)			- Prime Sports Showcase
G7-13 (C)			- Kaleidoscope/Disability Network
G7-13 (C)			- Classic Sports Network
G7-14 (C)	V2+		Independent Film Channel
G7-14 (C)			
G7-14 (C)	ATIS	7.10	WL 94 1203134027 516 328 XXXX RNC
G7-14 (C)			UPLN
G7-14 (C)	ASC	7.38	RAI Italy Radio Network
G7-15 (C)	V2+		Intro Television -- TCI's Preview
G7-15 (C)			Channel (UA)
G7-15 (C)			
G7-15 (C)	ATIS	8.30	DE E940445 303486XXXX 311567
G7-15 (C)			/WTCITITANROAD
G7-15 (C)			
G7-15 (C)	ASC	7.38	Blank audio carrier
G7-16 (C)	COMPR		Possible Digital Video Compression
G7-16 (C)			or other Data Transmissions
G7-17 (C)	ITC	6.8	Via TV (Interactive TV) -- home
G7-17 (C)			shopping service [folded? this has
G7-17 (C)			been a black screen for at least a
G7-17 (C)			week before SSV4N7 released]
G7-17 (C)			
G7-17 (C)	ASC	6.20	Blank audio carrier
G7-17 (C)			
G7-17 (C)	ATIS	7.10	7348939 1107348939 615 539 xxxx sa750
G7-17 (C)			atis
G7-18 (C)	ITC	6.8/6.2	CBS Contract Channel -- affiliate
G7-18 (C)			and news feeds (o/v) -- ATIS(7.10)
G7-18 (C)			de e9269 202457xxxx wci1231047 /cbstv
G7-18 (C)			wash (typical ATIS)
G7-18 (C)			
G7-18 (C)	ITC	6.8, 6.2	Teleport Minnesota Contract Channel -
G7-18 (C)			(various occasional video during times
G7-18 (C)			CBS doesn't use the transponder) [ATIS
G7-18 (C)			(7.10) DE E4394 612330XXXX WCI1231137
G7-18 (C)			/]

G7-19 (C)	VC1	6.2/6.8	CBS Contract Channel -- Eastern Time
G7-19 (C)			Zone affiliate programming -- sometimes
G7-19 (C)			ITC (UA)
G7-19 (C)	ATIS	7.10	wb20 201764xxxx 2534175311 glenwood
G7-19 (C)			1
G7-19 (C)	ASC	5.80	Data Transmissions
G7-19 (C)	ASC	7.38	WCBS-AM, Newsradio 88, New York City
G7-20 (C)	ITC	6.8	Prime Sports Showcase
G7-20 (C)	ASC	6.2	Blank audio carrier
G7-20 (C)	ASC	5.58	Data Transmissions
G7-20 (C)	ATIS	8.30	DE E8074 713437XXXX 2534175317 STARS
G7-20 (C)			HOUSTON
G7-21 (C)	ITC	6.2/6.8	BET on Jazz - jazz programming
G7-21 (C)	ATIS	7.10	E90024 1102130752 703 941 XXXX SA750
G7-21 (C)			ATIS
G7-22 (C)	ITC	6.8	NewsTalk Television
G7-22 (C)	ASC	6.2	Blank audio carrier
G7-22 (C)	ATIS	7.10	E6042 1203134005 516 328 xxxx CNBC UPLK
G7-23 (C)	V2+	6.8, 6.2, 5.8	fx Movies
G7-23 (C)	ATIS	7.10	DE FCC SGN 213870xxxx 2534175109 IDB
G7-23 (C)			COMM LA
G7-24 (C)	V2+	6.80, 6.20	International Channel
G7-24 (C)	ATIS	7.10	DE FCC SGN 213870XXXX 2534175183 IDB
G7-24 (C)			COMM LA

1.79 echo

- Echostar 1 11 Ghz

1.80 echostar-1

Echostar-1
119.0 degrees West longitude

NORAD: 23754

Satellite Type: Three-axis stabilized

Launched December 28, 1995 (Long March 2E)

Inclination: .0207 degrees

16 transponders - 120 watts each

Echostar DISH uses transponders 1,3,5,7,9,11,13,15,17,19, and 21
(and special temporary authority for 23,25,27,29,31)

100	DISH Network Channel	304	HBO 2 West
102	USA Network	310	Showtime 1
104	Comedy Central	311	Showtime 2
108	Lifetime	312	Showtime 3
110	TV Food Network	320	Cinemax 1
112	Home and Garden Network	321	Cinemax 2
114	E! Entertainment Television	322	Cinemax 3
118	Arts and Entertainment	500	PPV 1 (events)
120	History Channel	501	PPV 2
122	Sci-Fi Channel	502	PPV 3
132	Turner Classic Movies	503	PPV 4
138	Turner Network Television	504	PPV 5
140	ESPN	600	RAI (Italy)
142	ESPN2	602	ART
160	M-TV	700	Preview Channel
162	VH-1	900	Business TV
166	Country Music Television	901	Business TV
168	The Nashville Network		
170	Nickelodeon		DISH CD(TM)
172	The Disney Channel	950	Young Country
176	The Cartoon Network	951	Country Gold
178	The Learning Channel	952	Country Currents
180	The Family Channel	953	Jukebox Gold
182	The Discovery Channel	954	70's Song Book
200	Cable News Network	955	Foreground Music
202	Headline News	956	Adult Contemporary
204	Court TV	957	Album Adult
206	CNN International / CNNfn		Alternative
208	CNBC	958	HitLine
210	CSPAN	959	Classic Rock
214	The Weather Channel	960	Modern Rock
220	The Travel Channel	961	Hard rock
226	QVC Shopping Network	962	Hip Hop
230	TBS	963	Urban Beat
232	KTLA, Los Angeles	964	Latin Styles
234	WPIX, New York	965	Fiesta Mexicana
240	WGN, Chicago	966	Eurostyle
241	WNBC-TV, New York (NBC)	967	Mainstream Jazz
243	WRAL-TV, Raleigh (CBS)	968	Contemporary Jazz
245	WJLA-TV, Washington (ABC)		Flavors
247	FOXNet	969	Expressions
249	PBS	970	Contemporary
260	Trinity Broadcasting Net		Instrumentals
261	Eternal Word TV Network	971	Symphonic Classical
300	HBO East	972	Light Classical
301	HBO 2 East	973	Beautiful Music
302	HBO 3 East	974	Mature Vocals
303	HBO West	975	Contemporary Christian

976 Children's

1.81 satcom-index

SatCom Index

- SatCom C1 137\textdegree{} West 4 Ghz
- SatCom C3 131\textdegree{} West 4 Ghz
- SatCom C4 135\textdegree{} West 4 Ghz
- SatCom C5 139\textdegree{} West 4 Ghz
- SatCom SN2 69\textdegree{} West 4 Ghz
- SatCom SN 2 69\textdegree{} West 11 Ghz
- SatCom SN3R 87\textdegree{} West 4 Ghz

1.82 satcom-c5

GE Americom Satcom C5 - C-Band

139 degrees West longitude

NORAD: 21392

Satellite Type: Three-axis stabilized

Launched: May 29, 1991 (Delta 7925)

Inclination: .0443 degrees

Transponder Power: 24 transponders - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (V)	5945	3720	1430	1
2 (H)	5965	3740	1410	2
3 (V)	5985	3760	1390	3
4 (H)	6005	3780	1370	4
5 (V)	6025	3800	1350	5
6 (H)	6045	3820	1330	6
7 (V)	6065	3840	1310	7
8 (H)	6085	3860	1290	8
9 (V)	6105	3880	1270	9
10 (H)	6125	3900	1250	10

11 (V)	6145	3920	1230	11
12 (H)	6165	3940	1210	12
13 (V)	6185	3960	1190	13
14 (H)	6205	3980	1170	14
15 (V)	6225	4000	1150	15
16 (H)	6245	4020	1130	16
17 (V)	6265	4040	1110	17
18 (H)	6285	4060	1090	18
19 (V)	6305	4080	1070	19
20 (H)	6325	4100	1050	20
21 (V)	6345	4120	1030	21
22 (H)	6365	4140	1010	22
23 (V)	6385	4160	990	23
24 (H)	6405	4180	970	24

Note: The odd transponders are aimed at the Continental United States, while the even transponders are aimed at Alaska and northern Canada.

C5-1 (C)		(none)
C5-2 (C)		(none)
C5-3 (C)	SCPC 1404.800	RFD Illinois Radio Network
C5-3 (C)	SCPC 1404.600	WGN-AM, Chicago - news/talk
C5-3 (C)	SCPC 1400.600	o/a
C5-3 (C)		Brownfield Network
C5-3 (C)	SCPC 1400.400	o/a
C5-3 (C)		Brownfield Network
C5-3 (C)	SCPC 1400.200	o/a
C5-3 (C)	SCPC 1400.000	o/a
C5-3 (C)		Brownfield Network
C5-3 (C)	SCPC 1396.600	Kansas Information Network /
C5-3 (C)		Kansas Agnet
C5-3 (C)	SCPC 1396.400	Nebraska Ag Network
C5-3 (C)	SCPC 1396.200	Missouri Net
C5-3 (C)		KMOX-AM, St Louis
C5-3 (C)	SCPC 1396.000	o/a
C5-3 (C)	SCPC 1395.700	WIBW-AM
C5-3 (C)		Missouri Net
C5-3 (C)	SCPC 1387.500	o/a
C5-3 (C)	SCPC 1387.300	WPTF-AM, Raleigh/Durham/Chapel Hill
C5-3 (C)		-news, talk radio
C5-3 (C)		

C5-3 (C)	SCPC	1386.400	o/a
C5-3 (C)			
C5-3 (C)	SCPC	1386.200	Radio Iowa
C5-3 (C)			
C5-3 (C)	SCPC	1386.000	People's Radio Network
C5-3 (C)			
C5-3 (C)	SCPC	1384.600	North Carolina News Network
C5-3 (C)			Capitol Sports Network
C5-3 (C)			
C5-3 (C)	SCPC	1384.400	o/a
C5-3 (C)			
C5-3 (C)	SCPC	1384.200	North Carolina News Network
C5-3 (C)			
C5-3 (C)	SCPC	1384.000	Brownfield Network
C5-3 (C)			
C5-3 (C)	SCPC	1383.800	o/a
C5-3 (C)			
C5-3 (C)	SCPC	1383.600	o/a
C5-3 (C)			
C5-3 (C)	SCPC	1383.400	o/a
C5-3 (C)			
C5-3 (C)	SCPC	1382.900	Missouri Network
C5-3 (C)			
C5-3 (C)	SCPC	1382.600	North Carolina News Network
C5-3 (C)			
C5-3 (C)	SCPC	1382.300	Virginia News Network
C5-3 (C)			
C5-3 (C)	SCPC	1382.100	Missouri Net
C5-3 (C)			
C5-3 (C)	SCPC	1378.700	Radio Pennsylvania Network
C5-3 (C)			
C5-3 (C)	SCPC	1378.500	Radio Pennsylvania Network
C5-3 (C)			
C5-3 (C)	SCPC	1378.300	Radio Pennsylvania Network
C5-3 (C)			
C5-3 (C)	SCPC	1378.100	Radio Pennsylvania Network
C5-4 (C)			(none)
C5-5 (C)	DATA		Data Transmissions
C5-6 (C)			(none)
C5-7 (C)	DATA		Data Transmissions
C5-8 (C)			(none)
C5-9 (C)	DATA		Data Transmissions
C5-10 (C)			(none)
C5-11 (C)	DATA		Data Transmissions
C5-12 (C)			(none)
C5-13 (C)			o/v

C5-14 (C)		(none)
C5-15 (C)	DART	DART Services UA
C5-15 (C)		
C5-15 (C)	DART Ch 00	Westwood 1 Events Channel
C5-15 (C)	DART Ch 01	Westwood 1 Events Channel
C5-15 (C)	DART Ch 02.0	Talk Radio Network
C5-15 (C)	DART Ch 02.0	American Entertainment Network
C5-15 (C)	DART Ch 02.1	Grow-wise Gardner Network
C5-15 (C)	DART Ch 03	
C5-15 (C)	DART Ch 04	Mutual Broadcasting Network
C5-15 (C)	DART Ch 05.0	Mutual Broadcasting (Eastern/Central)
C5-15 (C)	DART Ch 05.1	Mutual Broadcasting Network
C5-15 (C)	DART Ch 06.0	Mutual Broadcasting Net Sports
C5-15 (C)	DART Ch 06.1	Mutual Broadcasting Special Events
C5-15 (C)	DART Ch 07	
C5-15 (C)	DART Ch 08	
C5-15 (C)	DART Ch 09.0	Mutual Broadcasting Net Sports
C5-15 (C)	DART Ch 10.0	USA Radio Network
C5-15 (C)	DART Ch 10.1	Radio America
C5-15 (C)	DART Ch 11	
C5-15 (C)	DART Ch 12	
C5-15 (C)	DART Ch 13	
C5-15 (C)	DART Ch 14	
C5-15 (C)	DART Ch 15	
C5-15 (C)	DART Ch 16	Talk America Radio Network
C5-15 (C)	DART Ch 17	
C5-15 (C)	DART Ch 18.0	One on One Sports Radio Network
C5-15 (C)	DART Ch 19	
C5-15 (C)	DART Ch 20	Salem Radio Network
C5-16 (C)		(none)
C5-17 (C)	DATA	Data Transmissions
C5-18 (C)		o/v
C5-19 (C)	SEDAT	SEDAT Services UA
C5-19 (C)		
C5-19 (C)	SEDAT Ch 00	
C5-19 (C)	SEDAT Ch 01	
C5-19 (C)	SEDAT Ch 02	
C5-19 (C)	SEDAT Ch 03	
C5-19 (C)	SEDAT Ch 04	
C5-19 (C)	SEDAT Ch 05	ABC News
C5-19 (C)	SEDAT Ch 06	Occasional audio
C5-19 (C)	SEDAT Ch 06	Collectors Radio Net
C5-19 (C)	SEDAT Ch 07	
C5-19 (C)	SEDAT Ch 08	
C5-19 (C)	SEDAT Ch 09	
C5-19 (C)	SEDAT Ch 10	
C5-19 (C)	SEDAT Ch 11	
C5-19 (C)	SEDAT Ch 12	IDB Communications occasional audio
C5-19 (C)	SEDAT Ch 12.0	Northwest Direct Radio Network
C5-19 (C)	SEDAT Ch 13	IDB Communications occasional audio
C5-19 (C)	SEDAT Ch 14	IDB Communications occasional audio
C5-19 (C)	SEDAT Ch 15	IDB Communications occasional audio

C5-19 (C)	SEDAT Ch 16	IDB Communications
C5-19 (C)	SEDAT Ch 16	Motor Racing Net
C5-19 (C)	SEDAT Ch 17	
C5-19 (C)	SEDAT Ch 18	
C5-19 (C)	SEDAT Ch 19	
C5-19 (C)	SEDAT Ch 20	
C5-19 (C)	SEDAT Ch 21	
C5-19 (C)	SEDAT Ch 22	
C5-19 (C)	SEDAT Ch 23	
C5-19 (C)	SEDAT Ch 24	
C5-19 (C)	SEDAT Ch 25	
C5-19 (C)	SEDAT Ch 26	
C5-19 (C)	SEDAT Ch 27	
C5-19 (C)	SEDAT Ch 28	
C5-19 (C)	SEDAT Ch 29	
C5-19 (C)	SEDAT Ch 30	
C5-19 (C)	SEDAT Ch 31	
C5-19 (C)	SEDAT Ch 32	o/a (Dallas Cowboys recently)
C5-19 (C)	SEDAT Ch 33	
C5-19 (C)	SEDAT Ch 34	
C5-19 (C)	SEDAT Ch 35	
C5-19 (C)	SEDAT Ch 36	
C5-19 (C)	SEDAT Ch 37	
C5-19 (C)	SEDAT Ch 38	
C5-19 (C)	SEDAT Ch 39	
C5-19 (C)	SEDAT Ch 40	
C5-19 (C)	SEDAT Ch 41	
C5-19 (C)	SEDAT Ch 42	
C5-19 (C)	SEDAT Ch 43	
C5-19 (C)	SEDAT Ch 44	
C5-19 (C)	SEDAT Ch 45	
C5-19 (C)	SEDAT Ch 46	
C5-19 (C)	SEDAT Ch 47	
C5-19 (C)	SEDAT Ch 48	
C5-19 (C)	SEDAT Ch 49	
C5-19 (C)	SEDAT Ch 50	
C5-19 (C)	SEDAT Ch 51	
C5-19 (C)	SEDAT Ch 52	
C5-19 (C)	SEDAT Ch 53	
C5-19 (C)	SEDAT Ch 54	
C5-19 (C)	SEDAT Ch 55	
C5-19 (C)	SEDAT Ch 56	
C5-19 (C)	SEDAT Ch 57	
C5-19 (C)	SEDAT Ch 58	
C5-19 (C)	SEDAT Ch 59	
C5-19 (C)	SEDAT Ch 60	
C5-19 (C)	SEDAT Ch 61	
C5-19 (C)	SEDAT Ch 62	
C5-19 (C)	SEDAT Ch 63	
C5-19 (C)	SEDAT Ch 64	
C5-19 (C)	SEDAT Ch 65	
C5-19 (C)	SEDAT Ch 66	
C5-19 (C)	SEDAT Ch 67	
C5-19 (C)	SEDAT Ch 68	
C5-19 (C)	SEDAT Ch 69	
C5-19 (C)	SEDAT Ch 70	
C5-19 (C)	SEDAT Ch 71	

C5-19 (C)	SEDAT Ch 72	
C5-19 (C)	SEDAT Ch 73	
C5-19 (C)	SEDAT Ch 74	
C5-19 (C)	SEDAT Ch 75	
C5-19 (C)	SEDAT Ch 76	
C5-19 (C)	SEDAT Ch 77	Entertainment Radio Network
C5-20 (C)		(none)
C5-21 (C)	SCPC 1032.400	Unistar Radio - Country/Western
C5-21 (C)		
C5-21 (C)	SCPC 1032.800	Data Transmissions
C5-21 (C)		
C5-21 (C)	SCPC 1033.200	Unistar Radio - Country/Western
C5-21 (C)		
C5-21 (C)	SCPC 1033.700	Blank audio carrier
C5-21 (C)		
C5-21 (C)	SCPC 1034.000	Unistar Radio - Hits from 60s, 70s, 80s, and Today
C5-21 (C)		
C5-21 (C)	SCPC 1034.200	Data Transmissions
C5-21 (C)		
C5-21 (C)	SCPC 1034.400	Unistar Radio - Hits from 60s, 70s, 80s, and Today
C5-21 (C)		
C5-21 (C)	SCPC 1034.600	Unistar Radio - Country/Western
C5-21 (C)		
C5-21 (C)	SCPC 1034.800	Unistar Radio - Country/Western
C5-21 (C)		
C5-21 (C)	SCPC 1041.800	CNN Radio Network
C5-21 (C)		
C5-21 (C)	SCPC 1042.000	Unistar Radio - Good Times and Great Oldies
C5-21 (C)		
C5-21 (C)	SCPC 1042.200	Data Transmissions
C5-21 (C)		
C5-21 (C)	SCPC 1042.400	Unistar Radio - Good Times and Great Oldies
C5-21 (C)		
C5-21 (C)	SCPC 1042.600	Unistar Radio - Original Hits
C5-21 (C)		
C5-21 (C)	SCPC 1042.800	Unistar Radio - Original Hits
C5-21 (C)		
C5-21 (C)	SCPC 1043.200	Unistar Radio - Today's Hits, Yesterday's Favorites
C5-21 (C)		
C5-21 (C)	SCPC 1043.400	CNN Radio Network
C5-21 (C)		
C5-21 (C)	SCPC 1043.600	Unistar Radio - Today's Hits, Yesterday's Favorites
C5-21 (C)		
C5-22 (C)		(none)
C5-23 (C)	SEDATS	SEDATS Services UA
C5-23 (C)		
C5-23 (C)	SEDAT Ch 00	Reserved
C5-23 (C)	SEDAT Ch 01	Reserved

C5-23 (C)	SEDAT Ch 02	ABC News Net 1 (EAST) [Information,
C5-23 (C)		Contemporary, Rock Networks]
C5-23 (C)	SEDAT Ch 03	ABC News Net 1 (CENTRAL/MTN) [Information,
C5-23 (C)		Contemporary, Rock Networks]
C5-23 (C)	SEDAT Ch 04	ABC News Net 1 (PACIFIC) [Information,
C5-23 (C)		Contemporary, Rock Networks]
C5-23 (C)	SEDAT Ch 05	ABC News Net 1 (REGIONAL) [Information,
C5-23 (C)		Contemporary, Rock Networks]
C5-23 (C)	SEDAT Ch 06	ABC News Net 2 (EAST) [Direction,
C5-23 (C)		Entertainment, FM Networks]
C5-23 (C)	SEDAT Ch 07	ABC News Net 2 (CENTRAL/MTN) [Direction,
C5-23 (C)		Entertainment, FM Networks]
C5-23 (C)	SEDAT Ch 08	ABC News Net 2 (PACIFIC) [Direction,
C5-23 (C)		Entertainment, FM Networks]
C5-23 (C)	SEDAT Ch 09	ABC News Net 2 (REGIONAL) [Direction,
C5-23 (C)		Entertainment, FM Networks]
C5-23 (C)	SEDAT Ch 10	ABC Stereo 1 (Left)
C5-23 (C)	SEDAT Ch 11	ABC Stereo 1 (Right)
C5-23 (C)	SEDAT Ch 12	ABC Stereo 2 (Left)
C5-23 (C)	SEDAT Ch 13	ABC Stereo 2 (Right)
C5-23 (C)	SEDAT Ch 13	Radio Today Entertainment (Dr. Laura)
C5-23 (C)	SEDAT Ch 14	Howard Stern Radio Show feed
C5-23 (C)	SEDAT Ch 15	Unistar Hot Country
C5-23 (C)	SEDAT Ch 16	Unistar Hot Country
C5-23 (C)	SEDAT Ch 16	Radio Today Entertainment (Dr. Laura)
C5-23 (C)	SEDAT Ch 17	
C5-23 (C)	SEDAT Ch 18	
C5-23 (C)	SEDAT Ch 19	
C5-23 (C)	SEDAT Ch 20	
C5-23 (C)	SEDAT Ch 21	WOR Radio Networks
C5-23 (C)	SEDAT Ch 22	
C5-23 (C)	SEDAT Ch 23	
C5-23 (C)	SEDAT Ch 24	
C5-23 (C)	SEDAT Ch 25	
C5-23 (C)	SEDAT Ch 26	
C5-23 (C)	SEDAT Ch 27	
C5-23 (C)	SEDAT Ch 28	
C5-23 (C)	SEDAT Ch 29	
C5-23 (C)	SEDAT Ch 30	
C5-23 (C)	SEDAT Ch 31	
C5-23 (C)	SEDAT Ch 32	
C5-23 (C)	SEDAT Ch 33	
C5-23 (C)	SEDAT Ch 34	
C5-23 (C)	SEDAT Ch 35	
C5-23 (C)	SEDAT Ch 36	
C5-23 (C)	SEDAT Ch 37	CBS Radio Network - main channel
C5-23 (C)	SEDAT Ch 38	
C5-23 (C)	SEDAT Ch 39	
C5-23 (C)	SEDAT Ch 40	CBS Radio Network - Sports programming
C5-23 (C)	SEDAT Ch 41	CBS Radio Network - Special Events
C5-23 (C)	SEDAT Ch 42	
C5-23 (C)	SEDAT Ch 43	
C5-23 (C)	SEDAT Ch 44	
C5-23 (C)	SEDAT Ch 45	
C5-23 (C)	SEDAT Ch 46	
C5-23 (C)	SEDAT Ch 47	Broadbank Burbcasting Corporation
C5-23 (C)	SEDAT Ch 48	The Computer Connection (talk show)

C5-23 (C)	SEDAT	Ch 49	ABC Talk radio feeds
C5-23 (C)	SEDAT	Ch 50	
C5-23 (C)	SEDAT	Ch 51	
C5-23 (C)	SEDAT	Ch 52	ABC feeds (Paul Harvey 11:35a ET)
C5-23 (C)	SEDAT	Ch 53	
C5-23 (C)	SEDAT	Ch 54	Rush Limbaugh affiliate feed
C5-23 (C)	SEDAT	Ch 54	Radio Today Entertainment (Dr. Laura)
C5-23 (C)	SEDAT	Ch 54	ABC Radio Network - Talkradio
C5-23 (C)	SEDAT	Ch 55	ABC Radio Network - Talkradio
C5-23 (C)	SEDAT	Ch 56	
C5-23 (C)	SEDAT	Ch 57	
C5-23 (C)	SEDAT	Ch 58	
C5-23 (C)	SEDAT	Ch 59	
C5-23 (C)	SEDAT	Ch 60	
C5-23 (C)	SEDAT	Ch 61	
C5-23 (C)	SEDAT	Ch 62	
C5-23 (C)	SEDAT	Ch 63	
C5-23 (C)	SEDAT	Ch 64	
C5-23 (C)	SEDAT	Ch 65	
C5-23 (C)	SEDAT	Ch 66	
C5-23 (C)	SEDAT	Ch 67	
C5-23 (C)	SEDAT	Ch 68	
C5-23 (C)	SEDAT	Ch 69	
C5-23 (C)	SEDAT	Ch 70	
C5-24 (C)	ITC	5.80	Alaskan Rural Communication Service (ARCS)
C5-24 (C)			
C5-24 (C)	COMPR		Digital Video Compression using CLI
C5-24 (C)			Spectrumsaver (UA)
C5-24 (C)			- Alaska One
C5-24 (C)			
C5-24 (C)	ASC	6.48	In-Touch Reading Service
C5-24 (C)			
C5-24 (C)	ASC	7.10	ATIS
C5-24 (C)			
C5-24 (C)	ASC	7.38/7.56	KSKA-FM, Anchorage, AK
C5-24 (C)			
C5-24 (C)	ASC	7.91	Blank audio carrier

1.83 satcom-c4

GE Americom Satcom C4 - C-Band

135 degrees West longitude

NORAD: 22096

Satellite Type: Three-axis stabilized

Launched: August 31, 1992 (Ariane)

Inclination: .0243 degrees

Transponder Power: 24 transponders - 17 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (V)	5945	3720	1430	1
2 (H)	5965	3740	1410	2
3 (V)	5985	3760	1390	3
4 (H)	6005	3780	1370	4
5 (V)	6025	3800	1350	5
6 (H)	6045	3820	1330	6
7 (V)	6065	3840	1310	7
8 (H)	6085	3860	1290	8
9 (V)	6105	3880	1270	9
10 (H)	6125	3900	1250	10
11 (V)	6145	3920	1230	11
12 (H)	6165	3940	1210	12
13 (V)	6185	3960	1190	13
14 (H)	6205	3980	1170	14
15 (V)	6225	4000	1150	15
16 (H)	6245	4020	1130	16
17 (V)	6265	4040	1110	17
18 (H)	6285	4060	1090	18
19 (V)	6305	4080	1070	19
20 (H)	6325	4100	1050	20
21 (V)	6345	4120	1030	21
22 (H)	6365	4140	1010	22
23 (V)	6385	4160	990	23
24 (H)	6405	4180	970	24
C4-1 (C)	V2+		American Movie Classics -- Classic	
C4-1 (C)			movies	
C4-1 (C)				
C4-1 (C)	ATIS	7.10	WL94 1203133476 516 328 xxxx RNC	
C4-1 (C)			UPLNK	
C4-2 (C)	COMPR		Request PPV DIGITAL VIDEO COMPRESSION	
C4-2 (C)			using G.I. DIGICIPHER UA	
C4-2 (C)			- Request TV 2	
C4-2 (C)			- Request TV 3	
C4-2 (C)			- Request TV 4	
C4-2 (C)			- Request TV 5	
C4-3 (C)	V2+		Nickelodeon (East) --	
C4-3 (C)			Children's programming	
C4-3 (C)				
C4-3 (C)	ASC	6.8	Barker channel	
C4-3 (C)				
C4-3 (C)	ATIS	7.10	DE E8776 516435xxxx WCI1239056 /PVIT	
C4-4 (C)	V2+		Lifetime (East) -- Personal	
C4-4 (C)			Health Programming	
C4-4 (C)				
C4-4 (C)	ASC	5.80	Audio tone	
C4-4 (C)				
C4-4 (C)	ASC	6.8	Barker Channel	
C4-4 (C)				

C4-4 (C)	ATIS	7.10	E5167 718983xxxx 1496555552
C4-5 (C)	ITC	6.80	Deutsche Welle TV service --
C4-5 (C)			German language television --
C4-5 (C)			[VBI: Deutsche Welle Berlin]
C4-5 (C)	ASC	7.02	Deutsche Welle Radio Service
C4-5 (C)			
C4-5 (C)	ASC	7.20	Foreign Language Audio Service
C4-5 (C)			
C4-5 (C)	ASC	7.38	Foreign Language Audio Service
C4-5 (C)			
C4-5 (C)	ASC	7.58	Foreign Language Audio Service
C4-5 (C)			
C4-5 (C)	ASC	7.74	Foreign Language Audio Service
C4-5 (C)			
C4-5 (C)	ASC	7.92	Blank audio carrier
C4-5 (C)			
C4-5 (C)	ATIS	8.30	wb 81 1202133115 201 827 xxxx ge
C4-5 (C)			vves nj
C4-6 (C)	V2+		Madison Square Garden -- sports
C4-6 (C)			network featuring Knicks/Yankees
C4-6 (C)			
C4-6 (C)	ASC	6.2	WQCD-FM (CD 101.9), New York City --
C4-6 (C)			smooth jazz
C4-6 (C)			
C4-6 (C)	ASC	6.8	Program audio (o/a)
C4-6 (C)			
C4-6 (C)	ATIS	7.10	DE MITEQ 516435xxxx MI208788
C4-7 (C)	V2+		Bravo -- arts programming
C4-7 (C)			
C4-7 (C)	ASC	6.8, 6.2	Program audio
C4-7 (C)			
C4-7 (C)	ATIS	7.10	wl 94 1203134141 516 328 xxxx rnc
C4-7 (C)			uplnk
C4-8 (C)	ITC	6.2, 6.8	Prevue Guide -- satellite TV
C4-8 (C)			program listing service (6.2 is
C4-8 (C)			right half of screen, 6.8 is left
C4-8 (C)			half)
C4-8 (C)			
C4-8 (C)	ASC	5.90	United Video Background Music
C4-8 (C)			service
C4-8 (C)			
C4-8 (C)	ASC	5.96, 6.534	Data Transmissions
C4-8 (C)		5.755, 6.505	
C4-8 (C)			
C4-8 (C)	ATIS	7.10	DE E920005 800 447 xxxx WCI1231339
C4-8 (C)			/PREVUE
C4-8 (C)			
C4-8 (C)	ASC	7.38, 7.56	KILA, Las Vegas, NV -- religious
C4-9 (C)	ITC	6.8, 6.2	QVC Home Shopping Network --
C4-9 (C)			home shopping network
C4-9 (C)			

C4-9 (C)	ATIS	7.10	E2076 1003144601 610 430 xxxx
C4-9 (C)			/QVCG39HPA5
C4-10 (C)	ITC	6.8, 6.2	Home Shopping Network (HSN) -- home shopping network
C4-10 (C)			
C4-10 (C)	ATIS	7.10	DE E872069 813 572 xxxx WCI1231178
C4-10 (C)			/HSNSTPETE
C4-10 (C)			
C4-10 (C)	ASC	7.87	In Touch -- Talking book net
C4-10 (C)			
C4-10 (C)	ASC	8.06	Business Radio Network
C4-10 (C)			
C4-10 (C)	ASC	8.26	WUSF-FM, Public Radio for Tampa, Florida
C4-10 (C)			
C4-11 (C)	ITC	6.2/6.8	The BOX - music videos
C4-11 (C)			
C4-11 (C)	ATIS	8.30	WB20 201764XXXX 3775555553
C4-11 (C)			
C4-11 (C)	COMPR		DIGITAL VIDEO COMPRESSION using
C4-11 (C)			G.I. Digicipher UA
C4-11 (C)			- The BOX - music videos
C4-12 (C)	ITC	6.80	Nustar -- Cable Company
C4-12 (C)			Promotion Channel
C4-12 (C)			
C4-12 (C)	ASC	5.94	Data Transmission
C4-12 (C)			
C4-12 (C)	ASC	7.38	Blank audio carrier
C4-12 (C)			
C4-12 (C)	ATIS	7.10	de e881198 215692xxxx wci1231082 /
C4-13 (C)	V2+		The Travel Channel -- Travel
C4-13 (C)			information channel [VBI: The Travel
C4-13 (C)			Channel//Landmark Networks]
C4-13 (C)			
C4-13 (C)	ASC	5.50, 6.80	Blank audio carriers
C4-13 (C)			
C4-13 (C)	ATIS	7.10	de wd34 404801xxxx wci1231290/
C4-13 (C)			404801xxxx
C4-14 (C)	ITC	6.80, 6.20	Fit TV -- health programming
C4-14 (C)			
C4-14 (C)	ATIS	7.10	DE E930230 804579xxxx WCI1231360 /CBN
C4-14 (C)			SATCOM
C4-15 (C)	V2+		WWOR-TV -- Superstation from
C4-15 (C)			New York City
C4-15 (C)			
C4-15 (C)	ASC	6.12	Program audio (occ)
C4-15 (C)			
C4-15 (C)	ASC	6.30/6.48	WQXR-FM, New York City --
C4-15 (C)			classical music
C4-15 (C)			
C4-15 (C)	ATIS	8.30	wb 81 1202133161 201 827 xxxx ge
C4-15 (C)			vves nj

C4-16 (C)	V2+/BMAC		Request 1 -- PPV Movie Service (some
C4-16 (C)			events are encrypted with the BMAC
C4-16 (C)			encryption system)
C4-16 (C)	ASC	6.8, 6.2	Spanish SAP (o/a)
C4-16 (C)	ATIS	8.30	DE E930170 303486xxxx WCI1239076
C4-16 (C)			/WTCITITAN
C4-17 (C)	V2+		MTV (East) -- Music
C4-17 (C)			Television Rock Video format
C4-17 (C)	ASC	6.6, 5.8	Barker channels
C4-17 (C)	ATIS	7.10	DE E8776 516435xxxx WCI1239052 /PVIT
C4-18 (C)	COMPR		Viewer's Choice DIGITAL VIDEO
C4-18 (C)			COMPRESSION using G.I. DIGICIPHER UA
C4-18 (C)			- Hot Choice
C4-18 (C)			- Continuous Hits 3
C4-18 (C)			- Continuous Hits 1
C4-18 (C)			- Continuous Hits 2
C4-19 (C)	ITC	6.80	CSPAN 2 -- Cable Special
C4-19 (C)			Public Affairs 2 -- covers the
C4-19 (C)			U.S. Senate
C4-19 (C)	ATIS	7.10	E2651 1003145174 703 941 xxxx WIT WASH
C4-20 (C)	V2+		Showtime (West) -- premium
C4-20 (C)			movie service
C4-20 (C)	ATIS	7.10	DE E8776 516435xxxx WCI1239054 /PVIT
C4-20 (C)	ASC	6.80	Barker channel
C4-21 (C)	V2+		The Discovery Channel (East) --
C4-21 (C)			science/nature programming
C4-21 (C)	ASC	6.80	Barker Channel
C4-22 (C)	V2+		Movie Channel (West) --
C4-22 (C)			Premium movie service
C4-22 (C)	ATIS	7.10	DE E8776 516435xxxx WCI1239055 /PVIT
C4-22 (C)	ASC	6.80	Barker channel
C4-22 (C)	ASC	5.80	Blank audio carrier
C4-23 (C)	V2+		VH-1 -- Adult Contemporary
C4-23 (C)			music video service
C4-23 (C)	ASC	6.80	Barker channel
C4-23 (C)	ATIS	7.10	DE E8776 516435xxxx WCI1239053 /PVIT

C4-24 (C)	V2+		Country Music TV
C4-24 (C)			
C4-24 (C)	ASC	6.2	Blank audio carrier
C4-24 (C)			
C4-24 (C)	ATIS	7.10	e4006 1094145761 615 871 xxxx nash
C4-24 (C)			netwk
C4-24 (C)			
C4-24 (C)	ASC	7.38/7.58	WSM-AM, Nashville, TN. --
C4-24 (C)			country/western music

1.84 satcom-c3

GE Americom Satcom C3 - C-Band

131 degrees West longitude

NORAD: 22117

Satellite Type: Three-axis stabilized

Launched: September 10, 1992 (Ariane)

Inclination: .0222 degrees

Transponder Power: 24 transponders - 17 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (V)	5945	3720	1430	1
2 (H)	5965	3740	1410	2
3 (V)	5985	3760	1390	3
4 (H)	6005	3780	1370	4
5 (V)	6025	3800	1350	5
6 (H)	6045	3820	1330	6
7 (V)	6065	3840	1310	7
8 (H)	6085	3860	1290	8
9 (V)	6105	3880	1270	9
10 (H)	6125	3900	1250	10
11 (V)	6145	3920	1230	11
12 (H)	6165	3940	1210	12
13 (V)	6185	3960	1190	13
14 (H)	6205	3980	1170	14
15 (V)	6225	4000	1150	15
16 (H)	6245	4020	1130	16
17 (V)	6265	4040	1110	17
18 (H)	6285	4060	1090	18
19 (V)	6305	4080	1070	19
20 (H)	6325	4100	1050	20
21 (V)	6345	4120	1030	21
22 (H)	6365	4140	1010	22
23 (V)	6385	4160	990	23
24 (H)	6405	4180	970	24

C3-1 (C)	V2+		The Family Channel (West) --
C3-1 (C)			variety programming
C3-1 (C)			
C3-1 (C)	ASC	6.80	Program audio (o/a)
C3-1 (C)			
C3-1 (C)	ASC	6.20	CBN Radio Network/Standard News
C3-1 (C)			
C3-1 (C)	ATIS	7.10	WD58 1310238516 804 579 xxxx CBN SATCOM
C3-2 (C)	ITC	6.2/6.8	The Learning Channel --
C3-2 (C)			educational programming
C3-2 (C)			
C3-2 (C)	ASC	5.80	Blank audio carrier
C3-2 (C)			
C3-2 (C)	ATIS	7.10	DE E4730 203965xxxx WCI1231045 /
C3-3 (C)	V2+/BMAC		Viewer's Choice -- PPV
C3-3 (C)			movie service -- some events
C3-3 (C)			encrypted with BMAC encryption
C3-3 (C)			system
C3-3 (C)			
C3-3 (C)	ASC	6.80	Spanish language SAP (o/a)
C3-3 (C)			
C3-3 (C)	ATIS	7.10	DE E4730 203965xxxx WCI1231045 /
C3-4 (C)	V2+		Lifetime (West) -- Personal
C3-4 (C)			health programming
C3-4 (C)			
C3-4 (C)	ASC	5.80	Audio tone
C3-4 (C)			
C3-4 (C)	ASC	6.80	Barker Channel
C3-4 (C)			
C3-4 (C)	ATIS	7.10	E5167 718983xxxx 1494555552
C3-5 (C)	ITC	6.2, 6.8	Faith and Values Network
C3-5 (C)			
C3-5 (C)	ATIS	8.30	DE E940007 303486xxxx 311568
C3-5 (C)			/WTCISUBURB
C3-6 (C)	COMPR		DIGITAL VIDEO COMPRESSION USING G.I.
C3-6 (C)			Digicipher UA
C3-6 (C)			- CourtTV
C3-6 (C)			- Popcorn Channel
C3-7 (C)	ITC	6.8	CSPAN 1-- Cable Special Public Affairs
C3-7 (C)			Network 1, covers the U.S. House
C3-7 (C)			
C3-7 (C)	ASC	5.20	CSPAN Audio Services 1 -- VOA
C3-7 (C)			and other English Language
C3-7 (C)			audio services
C3-7 (C)			
C3-7 (C)	ASC	5.40	CSPAN Audio Services 2 -- BBC
C3-7 (C)			World Service
C3-7 (C)			
C3-7 (C)	ASC	5.58	Blank audio carrier

C3-7 (C)			
C3-7 (C)	ATIS	7.10	E2651 1003145174 703 941 xxxx WIT WASH
C3-7 (C)			
C3-7 (C)	TELE		Possible Stock Quotation data (NABTS)
C3-8 (C)	ITC	6.8, 6.2	QVC 2 -- home shopping channel
C3-8 (C)			
C3-8 (C)	ATIS	7.10	e872076 1003144555 215 430 xxxx
C3-8 (C)			qvcfl8hpal
C3-9 (C)	DAT		Music Choice -- DATS service UA
C3-10 (C)	ITC	6.8, 6.2	Home Shopping Club Spree -- home
C3-10 (C)			shopping service
C3-10 (C)			
C3-10 (C)	ATIS	7.10	DE E872069 813 572 xxxx WCI1231176
C3-10 (C)			/HSNSTPETE
C3-11 (C)	V2+		Newsport -- sports programming
C3-11 (C)			
C3-11 (C)	ASC	5.60	Wegener Data Transmission
C3-11 (C)			
C3-11 (C)	ATIS	7.10	wl 94 1202132597 516 328 xxxx rnc uplnk
C3-12 (C)	V2+		The History Channel
C3-12 (C)			
C3-12 (C)	ASC	6.20	Audio tone
C3-12 (C)			
C3-12 (C)	ASC	6.80	Barker Channel
C3-12 (C)			
C3-12 (C)	ATIS	7.10	de e4730 203965xxxx wci1231045 /
C3-13 (C)	V2+		The Weather Channel -- 24 hour a day
C3-13 (C)			weather network
C3-13 (C)			
C3-13 (C)			VC2+ Alternate audio -- music and
C3-13 (C)			voiceover for the local forecast for
C3-13 (C)			cable systems with the older
C3-13 (C)			WeatherStar 3000 system
C3-13 (C)			
C3-13 (C)	ASC	6.12	Data Transmissions
C3-13 (C)			
C3-13 (C)	ASC	6.80	Music and voiceover for the local
C3-13 (C)			forecast for cable systems with the
C3-13 (C)			newer WeatherStar 4000 system
C3-13 (C)			
C3-13 (C)	ATIS	7.10	de wd34 404801xxxx wci1231288
C3-13 (C)			/404801xxxx
C3-13 (C)			
C3-13 (C)	ASC	7.78	"The Weather Channel local edition --
C3-13 (C)			continuous local forecasts, 24 hours
C3-13 (C)			a day" Classical background music
C3-14 (C)	V2+		New England Sports Network
C3-14 (C)			
C3-14 (C)	ASC	6.80	Affiliate Cue/Program audio (o/a)
C3-14 (C)			

C3-14 (C)	ASC	5.80	Data Transmissions
C3-14 (C)			
C3-14 (C)	ATIS	7.10	e7462 1102131112 617 536 xxxx nesn
C3-15 (C)	V2+		Showtime (East) -- premium
C3-15 (C)			movie service
C3-15 (C)			
C3-15 (C)	ASC	6.80	Barker Channel
C3-15 (C)			
C3-15 (C)	ATIS	7.10	DE E2707 516435xxxx WCI1239048 /
C3-16 (C)	V2+		MTV (West) -- Music
C3-16 (C)			Television rock music video service
C3-16 (C)			
C3-16 (C)	ASC	6.6	Barker Channel
C3-16 (C)			
C3-16 (C)	ASC	5.8	Barker Channel
C3-16 (C)			
C3-16 (C)	ATIS	7.10	DE E2707 516435xxxx WCI1239050 /
C3-17 (C)	V2+		Movie Channel (East) --
C3-17 (C)			Premium movie service
C3-17 (C)			
C3-17 (C)	ASC	6.80	Barker Channel
C3-17 (C)			
C3-17 (C)	ASC	5.80	Barker Channel
C3-17 (C)			
C3-17 (C)	ATIS	7.10	DE E2707 516435xxxx WCI1239049 /
C3-18 (C)	V2+		Nickelodeon (West) -
C3-18 (C)			children's programming
C3-18 (C)			
C3-18 (C)	ASC	6.80	Barker Channel
C3-18 (C)			
C3-18 (C)	ATIS	7.10	DE E2707 616435xxxx WCI1239051 /
C3-19 (C)	COMPR		Viacom DIGITAL VIDEO COMPRESSION
C3-19 (C)			using G.I. DIGICIPHER UA
C3-19 (C)			- Showtime 2
C3-19 (C)			- MTV Latino (Latin America)
C3-19 (C)			- Flix
C3-19 (C)			- MTV Latino (South America)
C3-20 (C)	COMPR		Jones DIGITAL VIDEO COMPRESSION using
C3-20 (C)			G.I. DIGICIPHER UA
C3-20 (C)			- Jones Computer Network
C3-20 (C)			- Product Information Network
C3-20 (C)			- Great American Country Network
C3-20 (C)			- Jones Health Network
C3-21 (C)	V2+		Comedy Central (East) -
C3-21 (C)			Comedy programming
C3-21 (C)			
C3-21 (C)	ATIS	7.10	e4063 1309238357 516 361 xxxx hbo
C3-21 (C)			come a
C3-21 (C)			
C3-21 (C)	ASC	7.38	Blank audio carrier

C3-22 (C)	COMPR		DIGITAL VIDEO COMPRESSION using
C3-22 (C)			G.I. Digicipher (UA)
C3-22 (C)			- Your Choice TV 1
C3-22 (C)			- Your Choice TV 2
C3-22 (C)			- Your Choice TV 3
C3-22 (C)			- Your Chioce TV 4
C3-23 (C)	V2+		E! Entertainment TV -- Entertainment
C3-23 (C)			news from Hollywood/New York City
C3-23 (C)	ASC	6.8, 6.2	Blank audio carriers
C3-23 (C)	ATIS	8.30	de e881143 213870xxxx 2534175052
C3-23 (C)			idb comm la
C3-23 (C)	ASC	7.24	Cable Radio Network
C3-24 (C)	DAT		Digital Music Express -- DAT music
C3-24 (C)			service UA

1.85 satcom-c1

GE Americom Satcom C1 - C-Band

137 degrees West longitude

NORAD: 20945

Satellite Type: Three-axis stabilized

Launched: November 20, 1990 (Ariane)

Inclination: .0215 degrees

Transponder Power: 24 transponders - 10 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
2 (V)	5965	3740	1410	2
3 (H)	5985	3760	1390	3
4 (V)	6005	3780	1370	4
5 (H)	6025	3800	1350	5
6 (V)	6045	3820	1330	6
7 (H)	6065	3840	1310	7
8 (V)	6085	3860	1290	8
9 (H)	6105	3880	1270	9
10 (V)	6125	3900	1250	10
11 (H)	6145	3920	1230	11
12 (V)	6165	3940	1210	12
13 (H)	6185	3960	1190	13
14 (V)	6205	3980	1170	14

15 (H)	6225	4000	1150	15
16 (V)	6245	4020	1130	16
17 (H)	6265	4040	1110	17
18 (V)	6285	4060	1090	18
19 (H)	6305	4080	1070	19
20 (V)	6325	4100	1050	20
21 (H)	6345	4120	1030	21
22 (V)	6365	4140	1010	22
23 (H)	6385	4160	990	23
24 (V)	6405	4180	970	24

C1-1 (C)	V2+		Prime -- National sports
C1-1 (C)			network (programing also shows up on
C1-1 (C)			many regional sports networks)
C1-1 (C)	ASC	5.58	Wegener Data Transmission
C1-1 (C)	ASC	6.20	o/a [usually a cue for affiliates]
C1-1 (C)	ATIS	8.30	de e8074 713437xxxx 2534175317
C1-1 (C)			stars houston
C1-2 (C)	V2+		KMGH-TV, Denver, CO -- ABC affiliate
C1-2 (C)	ASC	7.50	For The People Network
C1-2 (C)	ATIS	8.30	DE E930170 303 486 xxxx WCI1239076
C1-2 (C)			/WTCI TITAN
C1-3 (C)	V2+		KRMA-TV, Denver, CO -- PBS affiliate
C1-3 (C)	ASC	5.58	Colorado Talking Book Network/BBC World
C1-3 (C)			Service Radio
C1-3 (C)	TELE		Possible teletext service
C1-3 (C)	ATIS	8.30	DE E930170 303486xxxx WCI1239076
C1-3 (C)			/WTCITITAN
C1-4 (C)	V2+		SPORTSCHANNEL Pacific -- Regional
C1-4 (C)			sports network serving Northern
C1-4 (C)			California
C1-4 (C)	ASC	5.60	Wegener Data Transmission
C1-4 (C)	ASC	6.80, 6.20	Program Audio (o/a)
C1-4 (C)	ATIS	8.30	de 7540 510525xxxx 2534175243 spectrum
C1-4 (C)			sat sf
C1-5 (C)	V2+		KDVR-TV, Denver, CO -- FOX affiliate
C1-5 (C)	ATIS	8.10	de e930170 303486xxxx 316137
C1-5 (C)			/wtcititanroad
C1-5 (C)	ASC	5.80	Talk Radio Network

C1-6 (C)	V2+		KCNC-TV, Denver, CO -- CBS affiliate
C1-6 (C)			
C1-6 (C)	ASC	5.58	The Bonneville International LDS
C1-6 (C)			(Mormon) Radio Network
C1-6 (C)			
C1-6 (C)	ATIS	8.30	DE E930170 303 486 xxxx WCI1239076
C1-6 (C)			/WTCI TITAN
C1-7 (C)	V2+		Prime Sports West -- Regional
C1-7 (C)			California sports network
C1-7 (C)			
C1-7 (C)	ASC	6.80, 6.20, 5.80	Blank audio carriers
C1-7 (C)			
C1-7 (C)	ASC	7.38	Blank audio carrier
C1-7 (C)			
C1-7 (C)	ATIS	7.10	de e7754 213870xxxx 2534175057 idb
C1-7 (C)			comm la
C1-8 (C)	ITC	5.8/6.2, 6.8	NBC -- NBC Eastern time zone
C1-8 (C)			programming
C1-9 (C)	ITC	6.8/6.2	S.E.T. (Syndicated Entertainment TV)
C1-9 (C)			
C1-9 (C)	ATIS	8.30	DE E930170 303486XXXX WCI1239076
C1-9 (C)			/WTCITITAN
C1-10 (C)	V2+		Prime Sports Southwest
C1-10 (C)			
C1-10 (C)	ASC	5.60	Wegener Data Transmission
C1-10 (C)			
C1-10 (C)	ASC	6.20	Blank audio carrier
C1-10 (C)			
C1-10 (C)	ASC	7.20	Prime Sports Radio Network
C1-10 (C)			
C1-10 (C)	ATIS	8.30	de e8074 713437xxxx 2534175317 stars
C1-10 (C)			houston
C1-11 (C)	V2+	6.2/6.8	Network One "N1" -- entertainment
C1-11 (C)			programming
C1-11 (C)			
C1-11 (C)	ASC	7.48	Blank audio carrier
C1-11 (C)			
C1-11 (C)	ATIS	8.30	DE E7754 253417xxxx 253417xxxx IDB COMM
C1-11 (C)			LA
C1-12 (C)	DATA		Data Transmissions
C1-13 (C)	V2+	6.80, 6.20	SPORTSCHANNEL Chicago -- regional
C1-13 (C)			Chicago sports programming
C1-13 (C)			
C1-13 (C)	ASC	5.60	Wegener Data Transmission
C1-13 (C)			
C1-13 (C)	ASC	6.80	Program audio
C1-13 (C)			
C1-13 (C)	ATIS	7.10	E930271 1312238687 708 674 xxxx MRC TI

C1-14 (C)	V2+		KUSA-TV, Denver, CO -- NBC affiliate
C1-14 (C)			
C1-14 (C)	ATIS	8.30	DE E930170 303 486 xxxx WCI1239076
C1-14 (C)			/WTCI TITAN
C1-15 (C)	V2+	6.80	SPORTSCHANNEL Ohio/SPORTSCHANNEL
C1-15 (C)			Cincinnati/SPORTSCHANNEL Florida
C1-15 (C)			
C1-15 (C)	ASC	5.60	Wegener Data Transmission
C1-15 (C)			
C1-15 (C)	ASC	7.58	Sun Radio Network feeds (backhauls?)
C1-16 (C)	COMPR		Prime Sports West Networks DIGITAL
C1-16 (C)			VIDEO COMPRESSION using G.I.
C1-16 (C)			Digicipher (UA) (DVC on this
C1-16 (C)			transponder?)
C1-16 (C)			- Prime Sports West - San Diego
C1-16 (C)			- Prime Deportiva
C1-17 (C)	V2+		Prime Sports Rocky Mountain --
C1-17 (C)			regional sports network (o/v) --
C1-17 (C)			ATIS(7.10) de e8074 713437xxxx
C1-17 (C)			2534175317 stars houston [VBI: PSN
C1-17 (C)			C1-17 / ALT C1-9]
C1-17 (C)	V2+		Prime Sports Midwest -- regional sports
C1-17 (C)			network (o/v) [sometimes on C1/18] --
C1-17 (C)			ATIS(7.10) de e8074 713437xxxx
C1-17 (C)			2534175317 stars houston
C1-17 (C)			
C1-17 (C)	ITC	6.8, 6.2	Cal-Span -- California legislature
C1-17 (C)			TV (o/v) -- ATIS(7.10) de e7540
C1-17 (C)			415525xxxx 2534175243 spectrum sat
C1-17 (C)			inc
C1-18 (C)	V2+		Prime Sports Intermountain West --
C1-18 (C)			regional sports network (o/v)
C1-18 (C)			[sometimes seen on C1/17] --
C1-18 (C)			ATIS(7.10) de e8074 713437xxxx
C1-18 (C)			2534175317 stars houston
C1-18 (C)			
C1-18 (C)	ITC	6.8, 6.2	Infomercials (o/v)
C1-18 (C)			
C1-18 (C)	V2+		Sunshine Blackout Channel (o/v)
C1-18 (C)			
C1-18 (C)	V2+		Prime Sports Southwest Blackout Channel
C1-18 (C)			(o/v)
C1-18 (C)			
C1-18 (C)	ITC	6.8, 6.2	Prime International (o/v)
C1-19 (C)	V2+		Fox Network -- Fox programming for
C1-19 (C)			Cable Companies
C1-19 (C)			
C1-19 (C)	ASC	6.20	Blank audio carrier -- possible cue
C1-19 (C)			tones
C1-19 (C)			
C1-19 (C)	ASC	7.38, 7.56	Blank audio carriers

C1-19 (C)			
C1-19 (C)	ATIS	8.30	DE E930170 303 486 xxxx WCI1239076
C1-19 (C)			/WTCI TITAN
C1-20 (C)			o/v
C1-21 (C)	V2+		SPORTSCHANNEL Florida Blackout Channel
C1-21 (C)			(o/v)
C1-21 (C)			
C1-21 (C)	V2+		SPORTSCHANNEL Chicago Plus (o/v)
C1-22 (C)	V2+		Prime Sports Northwest -- Regional
C1-22 (C)			Seattle, WA sports network (o/v)
C1-22 (C)			
C1-22 (C)	ATIS	7.10	de kd45 800777xxxx wci1231119 /wtci
C1-22 (C)			issaq
C1-22 (C)			
C1-22 (C)	ASC	6.8, 6.2	Blank audio carriers
C1-22 (C)			
C1-22 (C)	ASC	5.60	Wegener Data Transmission
C1-23 (C)	V2+		KWGN-TV, Denver, CO -- Independent
C1-23 (C)			
C1-23 (C)	ATIS	8.30	DE E930170 303 486 xxxx WCI1239076
C1-23 (C)			/WTCI TITAN
C1-24 (C)	V2+		Sunshine Network -- Regional
C1-24 (C)			Florida sports network
C1-24 (C)			[VBI: Sunshine Net C1-24]
C1-24 (C)			
C1-24 (C)	ASC	5.60	Wegener Data Transmission
C1-24 (C)			
C1-24 (C)	ASC	6.20	Blank audio carrier
C1-24 (C)			
C1-24 (C)	ATIS	8.30	DE E881402 904687XXXX WCI1231282
C1-24 (C)			/SUNSHINE

1.86 satcom-sn3r-c

GE Americom Satcom SN3R - C-Band

87 degrees West longitude

NORAD: 18951

Satellite Type: Three-axis stabilized

Launched: March 11, 1988 (Ariane)

Inclination: .0356 degrees

Transponder Power: 12 transponders (36 Mhz wide) - 8.5 watts each
6 transponders (72 Mhz wide) - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
13L (V)	5965	3740	1410	2
2 (H)	5985	3760	1390	3
13U (V)	6005	3780	1370	4
3 (H)	6025	3800	1350	5
14L (V)	6045	3820	1330	6
4 (H)	6065	3840	1310	7
14U (V)	6085	3860	1290	8
5 (H)	6105	3880	1270	9
15L (V)	6125	3900	1250	10
6 (H)	6145	3920	1230	11
15U (V)	6165	3940	1210	12
7 (H)	6185	3960	1190	13
16L (V)	6205	3980	1170	14
8 (H)	6225	4000	1150	15
16U (V)	6245	4020	1130	16
9 (H)	6265	4040	1110	17
17L (V)	6285	4060	1090	18
10 (H)	6305	4080	1070	19
17U (V)	6325	4100	1050	20
11 (H)	6345	4120	1030	21
18L (V)	6365	4140	1010	22
12 (H)	6385	4160	990	23
18U (V)	6405	4180	970	24
S3-1 (C)	FM2	1.540	Blank audio carrier	
S3-2 (C)	ITC	6.8, 6.3, 6.12	Nebraska Educational TV [supposed to use digital video compression shortly]	
S3-2 (C)	ASC	5.76/5.94	KUCV-FM, Lincoln, NE -- Classical	
S3-2 (C)	ASC	6.48	Nebraska Talking Book Network	
S3-2 (C)	ASC	7.10	DE KF88 402 472 xxxx 2534175161 KUON LINCOLN NE	
S3-3 (C)	V2+		WSBK, Boston, MA -- Superstation from Boston (occasional WSBK program audio on 6.80)	
S3-3 (C)	ASC	5.76	Data Transmissions	
S3-3 (C)	ASC	6.2	WROL-AM, Boston, MA -- religious/ethnic	
S3-3 (C)	ATIS	7.10	de e873008 617329xxxx 2534175344 vsabosport	
S3-4 (C)	ITC	6.8, 6.2	Nebraska Educational TV	
S3-4 (C)	COMPR		Nebraska Educational DIGITAL VIDEO COMPRESSION using G.I. Digicipher (UA)	

S3-4 (C)			- Nebraska EduCable
S3-4 (C)			
S3-4 (C)	DATA		17 VTEL SCPC signals
S3-4 (C)			
S3-4 (C)	ASC	5.76/5.94	KUCV-FM, Lincoln, NE --
S3-4 (C)			Classical
S3-4 (C)			
S3-4 (C)	ATIS	7.10	DE KF88 402 472 xxxx 2534175161 KUON
S3-4 (C)			LINCOLN NE
S3-5 (C)	V2+		Univision - spanish-language
S3-5 (C)			programming
S3-5 (C)			
S3-5 (C)	ATIS	8.30	de e900570 305477xxxx wci1231087 /univ
S3-5 (C)			miami
S3-5 (C)			
S3-5 (C)	ASC	7.58	Affiliate Cue
S3-6 (C)			(none)
S3-7 (C)	DATA		Data Transmissions
S3-8 (C)	DATA		Data Transmissions
S3-9 (C)	V2+		WPIX, New York City, NY --
S3-9 (C)			superstation from New York City
S3-9 (C)			
S3-9 (C)	ASC	7.28	Data Transmissions
S3-9 (C)			
S3-9 (C)	ASC	5.76/5.94	Unistar -- Country/Western
S3-9 (C)			
S3-9 (C)	ASC	6.30/6.48	American Urban Radio Network
S3-9 (C)			
S3-9 (C)	ASC	6.80	Talk America Radio Network
S3-9 (C)			
S3-9 (C)	ASC	5.62	CNN Radio Network
S3-9 (C)			
S3-9 (C)	ATIS	7.10	de e872650 718983xxxx 2534175142 idb
S3-9 (C)			comms
S3-9 (C)			
S3-9 (C)	ASC	6.10, 6.15	Data Transmissions
S3-9 (C)			
S3-9 (C)	ASC	5.54	Blank audio carrier
S3-10 (C)	DATA		Possible Telephone/Data Traffic
S3-11 (C)	ITC	6.8, 6.2	CNN Contract Channel (o/v) ATIS(7.10)
S3-11 (C)			Varies with bureau being uplinked
S3-12 (C)	DATA		Possible Telephone/Data Traffic
S3-13 (C)	ASC	5.01	USA Radio Network Channel 1
S3-13 (C)			
S3-13 (C)	ASC	5.20	USA Radio Network Channel 2
S3-13 (C)			
S3-13 (C)	FM2	.33	USA Radio Network
S3-13 (C)			

S3-13 (C)	FM2	.54	VCY America
S3-13 (C)			
S3-13 (C)	FM2	.64	Blank audio carrier
S3-13 (C)			
S3-13 (C)	FM2	.78	VCY America
S3-13 (C)			
S3-13 (C)	FM2	1.05	Hot Tub Radio Party Network
S3-13 (C)			
S3-13 (C)	FM2	1.235	Various religious backhauls
S3-13 (C)			
S3-13 (C)	FM2	1.42	Ambassador Inspirational Radio
S3-13 (C)			
S3-13 (C)	FM2	1.77	Moody Broadcasting Network (WJSO 90.1 FM, Pikeville, KY)
S3-13 (C)			
S3-13 (C)	FM2	2.13	Unidentified service - slogan is "Unforgettable Music of All Time"
S3-13 (C)			
S3-13 (C)	FM2	2.31	Unidentified service - slogan is "Unforgettable Music of All Time"
S3-13 (C)			
S3-13 (C)	FM2	2.50	Blank audio carrier
S3-13 (C)			
S3-13 (C)	FM2	2.86	Satellite Music Network: Pure Gold
S3-13 (C)			
S3-13 (C)	FM2	3.03	Satellite Music Network: Pure Gold
S3-13 (C)			
S3-13 (C)	FM2	3.39	Blank audio carrier
S3-13 (C)			
S3-13 (C)	FM2	3.57	Satellite Music Network: Country Coast-to-Coast
S3-13 (C)			
S3-13 (C)	FM2	3.75	Satellite Music Network: Country Coast-to-Coast
S3-13 (C)			
S3-13 (C)	FM2	3.93	Satellite Music Network: Starstation
S3-13 (C)			
S3-13 (C)	FM2	4.11	Satellite Music Network: Starstation
S3-13 (C)			
S3-13 (C)	FM2	4.29	Moody Broadcasting Network (WJSO 90.1 FM, Pikeville, KY)
S3-13 (C)			
S3-13 (C)	FM2	4.47	Ambassador Inspirational Radio
S3-13 (C)			
S3-13 (C)	FM2	4.65	Ambassador Inspirational Radio
S3-13 (C)			
S3-13 (C)	FM2	4.83	International Broadcasting Network
S3-13 (C)			
S3-13 (C)	SCPC	1201.300	WVCY, Milwaukee - religious
S3-13 (C)			
S3-13 (C)	SCPC	1201.500	WVCY, Milwaukee - religious
S3-13 (C)			
S3-13 (C)	SCPC	1201.700	Hot Tub Radio Party Network

S3-13 (C)			
S3-13 (C)	SCPC	1201.900	o/a
S3-13 (C)			
S3-13 (C)	SCPC	1202.100	Satellite Music Network:
S3-13 (C)			Pure Gold
S3-13 (C)			
S3-13 (C)	SCPC	1202.250	Satellite Music Network:
S3-13 (C)			Pure Gold
S3-13 (C)			
S3-13 (C)	SCPC	1204.250	VCY America
S3-13 (C)			
S3-13 (C)	SCPC	1204.450	Nuevo Radio Cristiana Radio Network -
S3-13 (C)			spanish-language religion
S3-13 (C)			
S3-13 (C)	SCPC	1205.400	Un-identified service - slogan
S3-13 (C)			"Unforgettable Music of All Time"
S3-13 (C)			
S3-13 (C)	SCPC	1205.650	Un-identified service - slogan
S3-13 (C)			"Unforgettable Music of All Time"
S3-13 (C)			
S3-13 (C)	SCPC	1205.850	Satellite Music Network:
S3-13 (C)			Country Coast-to-Coast
S3-13 (C)			
S3-13 (C)	SCPC	1206.000	Satellite Music Network:
S3-13 (C)			Country Coast-to-Coast
S3-13 (C)			
S3-13 (C)	SCPC	1206.300	Satellite Music Network:
S3-13 (C)			Starstation
S3-13 (C)			
S3-13 (C)	SCPC	1206.550	Satellite Music Network:
S3-13 (C)			Starstation
S3-13 (C)			
S3-13 (C)	SCPC	1206.700	Data Transmission
S3-13 (C)			
S3-13 (C)	SCPC	1207.000	Good News Radio Network - Christian
S3-13 (C)			Radio
S3-13 (C)			
S3-13 (C)	SCPC	1207.200	Good News Radio Network - Christina
S3-13 (C)			Radio
S3-13 (C)			
S3-13 (C)	SCPC	1207.900	VCY America
S3-13 (C)			
S3-13 (C)	DAT		Satellite Music Network - Wegener
S3-13 (C)			Digital Audio UA
S3-14 (C)	BMC		Cable News Network UA
S3-14 (C)			
S3-14 (C)	ASC	6.80	Blank audio carrier
S3-14 (C)			
S3-14 (C)	ATIS	7.10	e4970 1003144375 404 325 xxxx
S3-14 (C)			upsouth
S3-14 (C)			
S3-14 (C)	ASC	7.38	Blank audio carrier
S3-15 (C)	V2+	6.8	KTLA, Los Angeles, CA --
S3-15 (C)			superstation from Los Angeles -
S3-15 (C)			SAP (Spanish) on 6.8

S3-15 (C)			
S3-15 (C)	ASC	5.72	Blank audio carrier
S3-15 (C)			
S3-15 (C)	ASC	5.96	Ambassador Inspirational
S3-15 (C)			Radio - religious
S3-15 (C)			
S3-15 (C)	ASC	6.48	Ambassador Inspirational
S3-15 (C)			Radio - religious
S3-15 (C)			
S3-15 (C)	ASC	6.05, 6.10	Data Transmissions
S3-15 (C)		5.83, 6.57	
S3-15 (C)			
S3-15 (C)	ASC	6.20	Radio Sedeye Iran -- with broadcasts
S3-15 (C)			in Farsi (Persian)
S3-15 (C)			
S3-15 (C)	ATIS	7.10	de e2941 818840xxxx wci1231194 /
S3-16 (C)			
S3-16 (C)	BMC		CNN International UA
S3-16 (C)			
S3-16 (C)	ASC	6.80	Program audio
S3-16 (C)			
S3-16 (C)	ATIS	7.10	e4970 1003144375 404 325 xxxx
S3-16 (C)			upsouth
S3-16 (C)			
S3-16 (C)	ASC	7.38	Blank audio carrier
S3-17 (C)			
S3-17 (C)	FM2	.33	UPI Radio Network
S3-17 (C)			
S3-17 (C)	FM2	.785	Data Transmission
S3-17 (C)			
S3-17 (C)	FM2	1.275	Childrens Sunshine Network
S3-17 (C)			
S3-17 (C)	FM2	1.77	Skylight -- religious
S3-17 (C)			
S3-17 (C)	FM2	2.65	Blank audio carrier
S3-17 (C)			
S3-17 (C)	FM2	2.83	Blank audio carrier
S3-17 (C)			
S3-17 (C)	FM2	3.57	Satellite Music Network:
S3-17 (C)			Traditional Country
S3-17 (C)			
S3-17 (C)	FM2	3.75	Satellite Music Network:
S3-17 (C)			Traditional Country
S3-17 (C)			
S3-17 (C)	FM2	4.26	Skylight -- religious
S3-17 (C)			
S3-17 (C)	FM2	4.47	In-Touch -- religious
S3-17 (C)			
S3-17 (C)	FM2	4.65	Salem Satellite Network -- religious
S3-17 (C)			
S3-17 (C)	FM2	4.83	Salem Satellite Network -- religious
S3-17 (C)			
S3-17 (C)	ASC	5.01	Salem Satellite Network -- religious
S3-17 (C)			
S3-17 (C)	SCPC	1123.100	Salem Satellite Network
S3-17 (C)			
S3-17 (C)	SCPC	1123.300	Salem Satellite Network

S3-17(C)			
S3-17(C)	SCPC	1123.500	Salem Satellite Network
S3-18(C)	ITC	6.80	U.S. Satellite Corporation (Utah) -
S3-18(C)			infomercials
S3-18(C)	FM2	4.80	Data Transmission
S3-18(C)	ASC	5.40, 5.78, 5.96	In-Store music services
S3-18(C)		6.12, 6.32, 6.48	
S3-18(C)		7.02, 7.22, 7.40	
S3-18(C)		5.05, 5.20, 5.58	
S3-18(C)	ATIS	7.10	de e2595 801263xxxx 2534175272
S3-19(C)	V2+		SportSouth -- Regional sports
S3-19(C)			network for the Southeastern
S3-19(C)			United States
S3-19(C)	ASC	6.20	Blank audio carrier
S3-19(C)	ASC	5.58	Wegener Data Transmission
S3-19(C)	ATIS	8.30	de e8074 2534175317 stars houston
S3-20(C)			(none)
S3-21(C)	V2+		Pro Am Sports System (PASS) Detroit, MI --
S3-21(C)			a regional sports network serving
S3-21(C)			the Detroit area
S3-21(C)	ASC	5.80	PASS affiliate cue tones
S3-21(C)	ATIS	7.10	wh30 1003144511 313 222 xxxx pro
S3-21(C)			vision
S3-22(C)			(none)
S3-23(C)	V2+		Home Team Sports, Baltimore, MD -- a
S3-23(C)			regional sports network serving the
S3-23(C)			Baltimore/Washington, DC area
S3-23(C)	ASC	6.8, 6.2	Program audio (o/a) -- usually blank
S3-23(C)			carriers
S3-23(C)	ATIS	7.10	e2505 1003145207 703 642 xxxx wit
S3-23(C)			wash
S3-24(C)	ITC	6.8, 6.20	America One
S3-24(C)	ATIS	8.30	de e880869 214243xxxx wci1231267
S3-24(C)	ASC	7.42	KYND-AM, Houston/American Spirit
S3-24(C)			Network - religious
S3-24(C)	ASC	5.80	Prime Sports Radio

1.87 satcom-1

1.88 satcom-1-ku

GE Americom Satcom SN2 - Ku-Band

69 degrees West longitude

NORAD: 15385

Satellite Type: Three-axis stabilized

Launched: November 10, 1984 (Ariane)

Inclination: .0231 degrees

Transponder Power: 6 transponders - 16 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq
T19 (H)	14040	11740	990
T20 (H)	14120	11820	1070
T21 (H)	14200	11900	1150
T22 (H)	14280	11980	1230
T23 (H)	14360	12060	1310
T24 (H)	14440	12140	1390

Half-Transponder Note: The downlink frequencies above are center frequencies for a full transponder. To get the approximate lower half transponder downlink frequency, subtract 18 MHz from the center full transponder frequency. To get the approximate upper half transponder downlink frequency, add 18 MHz to the center full transponder frequency.

S2-19 (KU)		(none)
S2-20 (KU)		o/v
S2-21 (KU)	LTCH 6.80, 6.20	TV ASAHI -- Newsfeeds and CNN INTL programming headed to Japan. UA (upper half)
S2-21 (KU)		
S2-21 (KU)		
S2-21 (KU)	ATIS 8.30	de e890197 202775xxxx 2534175281 prof video trans
S2-21 (KU)		
S2-22 (KU)	COMPR	DIGITAL VIDEO COMPRESSION using the DV 2000 (UA)
S2-22 (KU)		- Empire Sports Network
S2-22 (KU)		
S2-23 (KU)	ITC 6.8, 6.2	KET - Kentucky Educational Television -
S2-23 (KU)		Star Channels (using half transponder)

S2-23 (KU) - Star Channel 9 is on tr. 23L (ATIS
 S2-23 (KU) 8.3 DE E870490 606 233 xxxx WCI1231183
 S2-23 (KU) /EX241TX1) and Star Channel 10 (ATIS
 S2-23 (KU) 8.3 DE E870490 606 233 xxxx WCI1231194
 S2-23 (KU) /EX241TX2) is on tr. 23U

 S2-24 (KU) o/v

1.89 satcom-2sn-c

GE Americom Satcom SN2 - C-Band

69 degrees West longitude

NORAD: 15385

Satellite Type: Three-axis stabilized

Launched: November 10, 1984 (Ariane)

Inclination: .0231 degrees

Transponder Power: 6 transponders (72 Mhz wide) - 16 watts each
 12 transponders (36 Mhz wide) - 8.5 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1 (H)	5945	3720	1430	1
13L (V)	5965	3740	1410	2
2 (H)	5985	3760	1390	3
13U (V)	6005	3780	1370	4
3 (H)	6025	3800	1350	5
14L (V)	6045	3820	1330	6
4 (H)	6065	3840	1310	7
14U (V)	6085	3860	1290	8
5 (H)	6105	3880	1270	9
15L (V)	6125	3900	1250	10
6 (H)	6145	3920	1230	11
15U (V)	6165	3940	1210	12
7 (H)	6185	3960	1190	13
16L (V)	6205	3980	1170	14
8 (H)	6225	4000	1150	15
16U (V)	6245	4020	1130	16
9 (H)	6265	4040	1110	17
17L (V)	6285	4060	1090	18
10 (H)	6305	4080	1070	19
17U (V)	6325	4100	1050	20
11 (H)	6345	4120	1030	21
18L (V)	6365	4140	1010	22
12 (H)	6385	4160	990	23
18U (V)	6405	4180	970	24

S2-1 (C)	V2+		SPORTSCHANNEL New York
S2-1 (C)			
S2-1 (C)	ASC	5.58	Wegener Data Transmission
S2-1 (C)			
S2-1 (C)	ASC	6.20	Blank audio carrier
S2-1 (C)			
S2-1 (C)	ATIS	7.10	wl 94 1203134185 516 328 xxxx rnc uplnk
S2-1 (C)			
S2-1 (C)	ASC	7.60	Superstation WLIR 1300 AM, Spring Valley, NY
S2-1 (C)			
S2-2 (C)	V2+		GEMS TV -- Entertainment programming for Hispanic Women
S2-2 (C)			
S2-2 (C)			
S2-2 (C)	ASC	6.20	Program audio (o/a)
S2-2 (C)			
S2-2 (C)	ATIS	7.10	E930273 305 887 xxxx 2965555553
S2-3 (C)			
S2-3 (C)	ITC	6.8	United States Info Agency
S2-3 (C)			
S2-3 (C)	ASC	5.94	Program audio
S2-3 (C)			
S2-3 (C)	ASC	6.12	Voice of America
S2-3 (C)			
S2-3 (C)	ASC	6.24	Voice of America
S2-3 (C)			
S2-3 (C)	ASC	6.28	Data Transmission
S2-3 (C)			
S2-3 (C)	ASC	7.335	Voice of America
S2-3 (C)			
S2-3 (C)	ASC	7.425	Voice of America
S2-3 (C)			
S2-3 (C)	ASC	7.515	Voice of America
S2-3 (C)			
S2-3 (C)	ASC	7.605	Voice of America
S2-4 (C)			
S2-4 (C)	ITC	6.8, 6.2	H.TV - Hispanic music videos
S2-4 (C)			
S2-4 (C)	ASC	5.80	La Voz de Cuba Independiente y Democratica
S2-4 (C)			
S2-4 (C)	ASC	7.56	Blank audio carrier
S2-4 (C)			
S2-4 (C)	ASC	7.74/7.92	WCMQ-FM, Hialeah, FL "Cadena Nacional" - spanish language
S2-4 (C)			
S2-4 (C)	ATIS	7.10	E930273 305 887 xxxx 2965555553
S2-4 (C)			
S2-4 (C)	ASC	8.10	Blank audio carrier
S2-5 (C)			
S2-5 (C)	ITC	6.8, 6.2	NASA Contract Channel (o/v)
S2-5 (C)			Scrambled with the LEITCH system
S2-5 (C)			during Space Shuttle orbit activities
S2-5 (C)			-- Time Division Multiplex video
S2-5 (C)			during pre-launch activities with

S2-5 (C)			time-code on an audio subcarrier
S2-5 (C)			-- ATIS(8.30) de e6994 505526xxxx
S2-5 (C)			2534175168 ge lbjsc
S2-6 (C)			(none)
S2-7 (C)			o/v
S2-8 (C)			(none)
S2-9 (C)	ITC	6.8	NASA Select -- NASA events channel
S2-9 (C)			
S2-9 (C)	ATIS	7.10	de wb74 800323xxxx 2534175055
S2-9 (C)			ge gsfc md (typical ATIS -- usually
S2-9 (C)			there is no ATIS present)
S2-10 (C)	DATA		Data Transmissions
S2-11 (C)	V2+		SPORTSCHANNEL Philadelphia --
S2-11 (C)			regional sports programming for
S2-11 (C)			Philadelphia
S2-11 (C)			
S2-11 (C)	ASC	5.58	Wegener Data Transmission
S2-11 (C)			
S2-11 (C)	ASC	7.60	Radio Tropical -- Haitian Creole
S2-11 (C)			Music and Talk Programming
S2-11 (C)			
S2-11 (C)	ASC	8.30	WNWK Newark, NJ -- multicultural prg.
S2-12 (C)	SCPC	1202.300	Radio Marti -- U.S. service to Cuba
S2-12 (C)			
S2-12 (C)	SCPC		Data Transmissions
S2-13 (C)	SCPC		Data Transmissions
S2-14 (C)	SCPC		Data Transmissions
S2-15 (C)	COMPR		HERO TELEPORT DIGITAL VIDEO COMPRESSION
S2-15 (C)			using G.I. Digicipher (UA)
S2-15 (C)			- TeleCompras
S2-15 (C)			
S2-15 (C)			HERO TELEPORT CONTRACT TRANSPONDER -
S2-15 (C)			ATIS(7.1) E930273 305 887 xxxx
S2-15 (C)			2955555553
S2-15 (C)			
S2-15 (C)			o/v
S2-16 (C)	SCPC		Data Transmissions
S2-17 (C)	SCPC		Data Transmissions
S2-18 (C)	SCPC		Data Transmissions
S2-18 (C)			
S2-18 (C)	SCPC	1107.100	WFOG-AM, Suffolk, VA - soft AC
S2-19 (C)	SCPC		Data Transmissions

S2-20 (C)	BMC		Armed Forces Radio and Television
S2-20 (C)			Service UA
S2-20 (C)			
S2-20 (C)	ATIS	8.30	423847 1304238047 909 653 xxxx USEI
S2-20 (C)			
S2-20 (C)	ASC	7.41	AFRTS Radio Service
S2-21 (C)	V2+		SPORTSCHANNEL New England
S2-21 (C)			
S2-21 (C)	ASC	5.58	Wegener Data Transmission
S2-21 (C)			
S2-21 (C)	ASC	6.2, 7.6	Christian Music Network
S2-21 (C)			
S2-21 (C)	ATIS	7.10	de e873008 617329xxxx 2534175344
S2-21 (C)			vsabosport
S2-22 (C)	V2+		SPORTSCHANNEL New York Plus
S2-22 (C)			
S2-22 (C)	ASC	5.58	Wegener Data Transmission
S2-22 (C)			
S2-22 (C)	ASC	6.20	Blank audio carrier
S2-22 (C)			
S2-22 (C)	ATIS	7.10	wl 94 1203134218 516 328 xxxx rnc uplnk
S2-23 (C)	ITC	6.8, 6.2	NHK NY -- secondary feeds channel
S2-23 (C)			
S2-23 (C)	ATIS	8.30	WB81 1202133172 800 255 xxxx GE VVES NJ
S2-24 (C)			(none)

1.90 at&t-index

Telstar 402R

1.91 telstar402-c

AT&T Telstar 402R - C-Band

89 degrees West longitude

NORAD: 23670

Satellite Type: Three-axis stabilized

Launched: September 24, 1995 (Ariane)

Inclination: .0231 degrees

Transponder Power: 24 transponders - 11 watts each
(power can be raised to 21 watts if needed)

Tr.	Uplink Freq		Downlink Freq	Block IF	Channel
	in MHz		in MHz	Freq	Readout
1 (V)		5945	3720	1430	1
2 (H)		5965	3740	1410	2
3 (V)		5985	3760	1390	3
4 (H)		6005	3780	1370	4
5 (V)		6025	3800	1350	5
6 (H)		6045	3820	1330	6
7 (V)		6065	3840	1310	7
8 (H)		6085	3860	1290	8
9 (V)		6105	3880	1270	9
10 (H)		6125	3900	1250	10
11 (V)		6145	3920	1230	11
12 (H)		6165	3940	1210	12
13 (V)		6185	3960	1190	13
14 (H)		6205	3980	1170	14
15 (V)		6225	4000	1150	15
16 (H)		6245	4020	1130	16
17 (V)		6265	4040	1110	17
18 (H)		6285	4060	1090	18
19 (V)		6305	4080	1070	19
20 (H)		6325	4100	1050	20
21 (V)		6345	4120	1030	21
22 (H)		6365	4140	1010	22
23 (V)		6385	4160	990	23
24 (H)		6405	4180	970	24
T402R-1 (C)				o/v	
T402R-1 (C)					
T402R-1 (C)	ITC	6.8		The Babe Channel (o/v) - [ATIS(7.10)	
T402R-1 (C)				E874238 1004145671 317 642 XXXX TBI]	
T402R-2 (C)	ITC	6.80		TVN Promo Channel	
T402R-3 (C)				o/v	
T402R-3 (C)					
T402R-3 (C)	BMC			Horse Racing (o/v)	UA
T402R-4 (C)	ITC	6.8		Shop At Home - home shopping service	
T402R-4 (C)					
T402R-4 (C)	ASC	6.2		Blank audio carrier	
T402R-5 (C)	ITC	6.8/6.2, 5.8		Group W Videoservices (o/v) --	
T402R-5 (C)				syndicated show distribution	
T402R-5 (C)				[ATIS(7.10) WZ6 11003145117 412 787	
T402R-5 (C)				XXXX KDKA TV]	
T402R-5 (C)					
T402R-5 (C)				o/v	
T402R-6 (C)				AUTOTOTE COMMUNICATIONS CONTRACT	
T402R-6 (C)				TRANSPONDER	
T402R-6 (C)					

T402R-6 (C)			o/v
T402R-7 (C)	V2+		Cable Video Store - PPV
T402R-7 (C)			
T402R-7 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037 /4
T402R-7 (C)			MEDIA CO
T402R-8 (C)			o/v
T402R-9 (C)			[Global Access Telecommunication
T402R-9 (C)			Services Contract Transponder]
T402R-9 (C)			
T402R-9 (C)			o/v
T402R-10 (C)			THE SPACECONNECTION CONTRACT
T402R-10 (C)			TRANSPONDER
T402R-10 (C)			
T402R-10 (C)	V2+		XXXtreme/ClimaXXX Promo Channel (o/v) -
T402R-10 (C)			ATIS(7.10) E5740 1202132518 908 969ÿ
T402R-10 (C)			XXXX SA750 ATIS
T402R-10 (C)			
T402R-10 (C)	ITC	6.8, 6.2	XXXpose/XXXplore Promo Channel (o/v)
T402R-10 (C)			
T402R-10 (C)			o/v
T402R-11 (C)	ITC	6.80, 6.20	The Outdoor Channel -- Outdoor
T402R-11 (C)			and other variety programming
T402R-11 (C)			
T402R-11 (C)	ATIS	7.10	KB22 909943xxxx 35755555553 STEELE
T402R-11 (C)			VALLEY ES PERRIS CA
T402R-11 (C)			
T402R-11 (C)	ASC	5.80	Yesterday USA
T402R-12 (C)			o/v
T402R-13 (C)			[Global Access Telecommunication
T402R-13 (C)			Services Contract Transponder]
T402R-13 (C)			
T402R-13 (C)			o/v
T402R-13 (C)			
T402R-13 (C)	ITC	6.8, 6.2	The Shopping Connection (TSC) - o/v
T402R-14 (C)			o/v
T402R-15 (C)	V2+		Spice - adult
T402R-15 (C)			
T402R-15 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037 /4
T402R-15 (C)			MEDIA CO
T402R-16 (C)	V2+		Adam and Eve - adult
T402R-16 (C)			
T402R-16 (C)	ATIS	7.10	DE DEE2941 818840XXXX WCI1239037 /4
T402R-16 (C)			MEDIA CO
T402R-17 (C)			o/v
T402R-18 (C)	ITC		Kelly Broadcast Systems Contract

T402R-18 (C)			Transpoder
T402R-18 (C)			
T402R-18 (C)			o/v
T402R-18 (C)			
T402R-18 (C)	ASC	5.80	Radio Otto - Italian radio
T402R-19 (C)	ITC	6.8	Channel America - Low power TV station
T402R-19 (C)			network
T402R-19 (C)			
T402R-19 (C)	ASC	6.2	Blank audio carrier
T402R-19 (C)			
T402R-19 (C)	ATIS	8.30	DE E881382 213468XXXX 2534175223
T402R-20 (C)			[Global Access Telecommunication
T402R-20 (C)			Services Contract Transpoder]
T402R-20 (C)			
T402R-20 (C)			o/v
T402R-20 (C)			
T402R-20 (C)	ITC	6.8, 6.2	Superior Livestock Auction (o/v) --
T402R-20 (C)			ATIS(7.10) 880988 1004145568 303 697
T402R-20 (C)			XXXX SA 751
T402R-21 (C)			o/v
T402R-22 (C)	ITC	6.8, 6.2	ABC L.A. feeds (o/v)
T402R-22 (C)			
T402R-22 (C)			o/v
T402R-23 (C)	ITC	6.8, 6.2	La Cadena de Milagro - spanish-language
T402R-23 (C)			religious
T402R-23 (C)			
T402R-23 (C)	ATIS	7.10	E5600 1308439934 809 729 xxxx AT&T
T402R-23 (C)			CAYEY
T402R-24 (C)	ITC	6.8, 6.2	PandaAmerica - home shopping service

AT&T Telstar 402R - Ku-Band

89 degrees West longitude

NORAD: 23670

Satellite Type: Three-axis stabilized

Launched: September 24, 1995 (Ariane)

Inclination: .0231 degrees

Transponder Power: 16 transponders (54 MHz wide) - 60 watts each
(transponder power can be raised to 120 watts if needed)

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq
T01 (V)	14030	11730	980

T02 (H)	14043	11743	993
T03 (V)	14090	11790	1040
T04 (H)	14103	11803	1053
T05 (V)	14150	11850	1100
T06 (H)	14163	11863	1113
T07 (V)	14210	11910	1160
T08 (H)	14213	11923	1173
T09 (V)	14271	11971	1221
T10 (H)	14284	11984	1234
T11 (V)	14333	12033	1283
T12 (H)	14346	12046	1296
T13 (V)	14395	12095	1345
T14 (H)	14408	12108	1358
T15 (V)	14457	12157	1407
T16 (H)	14470	12170	1420

T402R-1 (KU) DATA Possible Data Transmissions (UA)

T402R-2 (KU)

T402R-3 (KU) DATA Possible Data Transmissions (UA)

T402R-4 (KU) DATA Possible Data Transmissions (UA)

T402R-5 (KU) o/v

T402R-6 (KU) o/v

T402R-7 (KU) [Global Access Telecommunication
Services Contract Transponder]

T402R-7 (KU) o/v

T402R-8 (KU)

T402R-9 (KU) ITC 6.8, 6.2 ID Slate (Lower half)

T402R-9 (KU) Occasional Video (Upper half)

T402R-10 (KU) o/v

T402R-11 (KU)

T402R-12 (KU)

T402R-13 (KU) o/v

T402R-14 (KU) DATA Possible Data Transmissions (UA)

T402R-15 (KU) DATA Data Transmissions (UA)

T402R-15 (KU) DATA Digital Music Xpress for Business
- reception system available for
home dish owners

T402R-16 (KU)

1.92 telstar-index

Telstar Menu

- Telstar 302 85\textdegree{} West
- Telstar 303 125\textdegree{} West
- Telstar 402 89\textdegree{} West C & Ku Band

1.93 telstar302-c

AT&T Telstar 302 - C-Band

85 degrees West longitude

NORAD: 15237

Satellite Type: Spin stabilized

Launched: September 1, 1984 (Shuttle)

Inclination: .9334 degrees

Transponder Power: 24 transponders - 8.5 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1V(V)	5945	3720	1430	1
1H(H)	5965	3740	1410	2
2V(V)	5985	3760	1390	3
2H(H)	6005	3780	1370	4
3V(V)	6025	3800	1350	5
3H(H)	6045	3820	1330	6
4V(V)	6065	3840	1310	7
4H(H)	6085	3860	1290	8
5V(V)	6105	3880	1270	9
5H(H)	6125	3900	1250	10
6V(V)	6145	3920	1230	11
6H(H)	6165	3940	1210	12
7V(V)	6185	3960	1190	13
7H(H)	6205	3980	1170	14
8V(V)	6225	4000	1150	15
8H(H)	6245	4020	1130	16
9V(V)	6265	4040	1110	17
9H(H)	6285	4060	1090	18
10V(V)	6305	4080	1070	19
10H(H)	6325	4100	1050	20

11V (V)	6345	4120	1030	21
11H (H)	6365	4140	1010	22
12V (V)	6385	4160	990	23
12H (H)	6405	4180	970	24
T2-1 (C)			(none)	
T2-2 (C)	ITC	6.80	American Independent Network (AIN)	
T2-2 (C)				
T2-2 (C)	ASC	5.60	KTRT-AM, Claremore, OK - talk	
T2-2 (C)				
T2-2 (C)	ASC	6.20	Blank audio carrier	
T2-2 (C)				
T2-2 (C)	ATIS	7.10	E920224 1003144869 602 878 xxxx	
T2-2 (C)			TRACSTAR	
T2-2 (C)				
T2-2 (C)	ASC	7.90	Practical Radio Communications	
T2-2 (C)			Satellite Uplinking Service	
T2-3 (C)			(none)	
T2-4 (C)			(none)	
T2-5 (C)			(none)	
T2-6 (C)			(none)	
T2-7 (C)			(none)	
T2-8 (C)			(none)	
T2-9 (C)			(none)	
T2-10 (C)	LTCH	6.2/6.8	ABC Contract Channel -- Pacific	
T2-10 (C)			time zone feed UA	
T2-10 (C)				
T2-10 (C)	ATIS	7.10	E5740 1202132777 908 969 xxxx SA750	
T2-10 (C)			ATIS	
T2-11 (C)			(none)	
T2-12 (C)			(none)	
T2-13 (C)			(none)	
T2-14 (C)			(none)	
T2-15 (C)			(none)	
T2-16 (C)			(none)	
T2-17 (C)			(none)	
T2-18 (C)			o/v	
T2-19 (C)			(none)	

T2-20 (C)	ITC	6.2/6.8	ABC Contingency Channel -- (Eastern time
T2-20 (C)			zone feed)
T2-20 (C)			
T2-20 (C)	ASC	5.50, 5.65	Data Transmissions
T2-20 (C)			
T2-20 (C)	ATIS	7.10	de e860103 213456xxxx wci1231276
T2-20 (C)			/abc tv ny
T2-21 (C)			(none)
T2-22 (C)			(none)
T2-23 (C)			(none)
T2-24 (C)			o/v

1.94 telstar303-c

AT&T Telstar 303 - C-Band

123 degrees West longitude

NORAD: 15826

Satellite Type: Spin stabilized

Launched: June 19, 1985 (Shuttle)

Inclination: .6618 degrees

Transponder Power: 24 transponders - 8.5 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1V(V)	5945	3720	1430	1
1H(H)	5965	3740	1410	2
2V(V)	5985	3760	1390	3
2H(H)	6005	3780	1370	4
3V(V)	6025	3800	1350	5
3H(H)	6045	3820	1330	6
4V(V)	6065	3840	1310	7
4H(H)	6085	3860	1290	8
5V(V)	6105	3880	1270	9
5H(H)	6125	3900	1250	10
6V(V)	6145	3920	1230	11
6H(H)	6165	3940	1210	12
7V(V)	6185	3960	1190	13
7H(H)	6205	3980	1170	14
8V(V)	6225	4000	1150	15
8H(H)	6245	4020	1130	16
9V(V)	6265	4040	1110	17
9H(H)	6285	4060	1090	18

10V (V)	6305	4080	1070	19
10H (H)	6325	4100	1050	20
11V (V)	6345	4120	1030	21
11H (H)	6365	4140	1010	22
12V (V)	6385	4160	990	23
12H (H)	6405	4180	970	24

Note: TVN = Telstar Video Network

T3-1 (C)			(none)
T3-2 (C)			(none)
T3-3 (C)			(none)
T3-4 (C)			(none)
T3-5 (C)			(none)
T3-6 (C)	V2+		XXXplore - adult
T3-7 (C)			(none)
T3-8 (C)	V2+		XXXpose - adult
T3-9 (C)	ITC	6.8, 6.2	XXXplore/XXXpose Promo Channel
T3-9 (C)	ATIS	7.10	DE E880773 504 942 XXXX WCI1231199
T3-9 (C)			/NOTELINC
T3-10 (C)	ITC	6.8, 6.2	XXXtreme/ClimaXXX Promo Channel
T3-10 (C)	ATIS	7.10	E870824 303 397 XXXX 1449555552
T3-11 (C)			(none)
T3-12 (C)			(none)
T3-13 (C)			(none)
T3-14 (C)			(none)
T3-15 (C)			(none)
T3-16 (C)			(none)
T3-17 (C)			(none)
T3-18 (C)			(none)
T3-19 (C)	DATA		Possible Data Transmissions (UA)
T3-20 (C)			(none)
T3-21 (C)			(none)
T3-22 (C)			Kelly Broadcasting Systems

T3-22 (C)			International Teleport Contract
T3-22 (C)			Channel - ATIS(7.10) DE E860008 201 673
T3-22 (C)			xxxx WCI1231336 /KBSORANGE
T3-22 (C)			
T3-22 (C)	V2+		Antenna Satellite TV Network --
T3-22 (C)			programming "direct from Greece" (o/v)
T3-22 (C)			
T3-22 (C)	ITC	6.80, 6.20	HRT Croatia programming (o/v)
T3-22 (C)			
T3-22 (C)	ITC	6.80, 6.20	other infomercials/feeds (o/v)
T3-22 (C)			
T3-22 (C)	ASC	5.85	Antenna FM -- Greek language
T3-22 (C)			programming.
T3-23 (C)			(none)
T3-24 (C)	ITC	6.80	TVN Promotional Channel (promo to
T3-24 (C)			inform that TVN is on G3R now)

1.95 sol-index

Solidaridad Main Menu

Solidaridad 1 109\textdegree{} West 4 Ghz

Solidaridad 2

1.96 solid-1

Solidaridad 1 - C-Band

109.2 degrees West longitude

NORAD: 22911

Satellite Type: Three-axis stabilized

Launched: November 19, 1993 (Ariane)

Inclination: .0258 degrees

Transponder Power: 6 transponders (72 Mhz wide) - 16 to 18 watts each
 12 transponders (36 Mhz wide) - 16 to 18 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1N(V)	5945	3720	1430	1
1W/L(H)	5965	3740	1410	2

2N (V)	5985	3760	1390	3
1W/U (H)	6005	3780	1370	4
3N (V)	6025	3800	1350	5
2W/L (H)	6045	3820	1330	6
4N (V)	6065	3840	1310	7
2W/U (H)	6085	3860	1290	8
5N (V)	6105	3880	1270	9
3W/L (H)	6125	3900	1250	10
6N (V)	6145	3920	1230	11
3W/U (H)	6165	3940	1210	12
7N (H)	6185	3960	1190	13
4W/L (H)	6205	3980	1170	14
8N (V)	6225	4000	1150	15
4W/U (H)	6245	4020	1130	16
9N (V)	6265	4040	1110	17
5W/L (H)	6285	4060	1090	18
10N (V)	6305	4080	1070	19
5W/U (H)	6325	4100	1050	20
11N (V)	6345	4120	1030	21
6W/L (H)	6365	4140	1010	22
12N (V)	6385	4160	990	23
6W/U (H)	6405	4180	970	24

SD1-1 (C) DATA Data Transmissions

SD1-2 (C) DATA Data Transmissions

SD1-3 (C) SCPC 1400.400
SD1-3 (C)
SD1-3 (C) SCPC 1393.500
SD1-3 (C)
SD1-3 (C) SCPC 1393.200
SD1-3 (C)
SD1-3 (C) SCPC 1392.700
SD1-3 (C)
SD1-3 (C) SCPC 1392.200
SD1-3 (C)
SD1-3 (C) SCPC 1391.900
SD1-3 (C)
SD1-3 (C) SCPC 1391.700
SD1-3 (C)
SD1-3 (C) SCPC 1391.400
SD1-3 (C)
SD1-3 (C) SCPC 1390.900
SD1-3 (C)
SD1-3 (C) SCPC 1390.000
SD1-3 (C)
SD1-3 (C) SCPC 1388.600
SD1-3 (C)
SD1-3 (C) SCPC 1388.400
SD1-3 (C)
SD1-3 (C) SCPC 1388.200
SD1-3 (C)
SD1-3 (C) SCPC 1387.900
SD1-3 (C)
SD1-3 (C) SCPC 1387.500

SD1-3 (C)			
SD1-3 (C)	SCPC	1387.000	
SD1-3 (C)			
SD1-3 (C)	SCPC	1382.500	
SD1-3 (C)			
SD1-3 (C)	SCPC	1379.000	
SD1-3 (C)			
SD1-3 (C)	SCPC	1372.300	
SD1-4 (C)	DATA		Data Transmissions
SD1-5 (C)			o/v
SD1-6 (C)	DATA		Possible Data Transmissions
SD1-7 (C)	ITC	6.20	XEQ-TV 9
SD1-7 (C)			
SD1-7 (C)	LTCH		LEITCH encrypted soccer matches (o/v)
SD1-7 (C)			-- blank audio carriers on 6.2 and 6.8
SD1-7 (C)			
SD1-7 (C)	ASC	6.80	Cue Channel
SD1-7 (C)			
SD1-7 (C)	ASC	7.38	XEW-FM "WFM", Mexico City
SD1-8 (C)	DATA		Data Transmissions
SD1-9 (C)			o/v
SD1-10 (C)	ITC	6.20	"Gobierno de la Republica" - English
SD1-10 (C)			translation: Government of the Republic
SD1-11 (C)	COMPR		Multivision Digital Video Channel UA
SD1-12 (C)	DATA		Possible Telephone/Data Traffic
SD1-13 (C)	COMPR		Multivision Digital Video Channel UA
SD1-14 (C)	DATA		Possible Telephone/Data Traffic
SD1-15 (C)	COMPR		Multivision Digital Video Channel UA
SD1-16 (C)	DATA		Possible Telephone/Data Traffic
SD1-17 (C)	COMPR		Multivision Digital Video Channel UA
SD1-18 (C)	ITC		Test Pattern
SD1-19 (C)			(none)
SD1-20 (C)	DATA		Data Transmissions?
SD1-21 (C)			(none)
SD1-22 (C)			(none)
SD1-23 (C)			(none)

SD1-24 (C) (none)

1.97 solid-2

Solidaridad 2 - C-Band

113 degrees West longitude

NORAD: 23313

Satellite Type: Three-axis stabilized

Launched: October 7, 1994 (Ariane)

Inclination: .0138 degrees

Transponder Power: 6 transponders (72 Mhz wide) - 16 to 18 watts each
12 transponders (36 Mhz wide) - 16 to 18 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1N (V)	5945	3720	1430	1
1W/L (H)	5965	3740	1410	2
2N (V)	5985	3760	1390	3
1W/U (H)	6005	3780	1370	4
3N (V)	6025	3800	1350	5
2W/L (H)	6045	3820	1330	6
4N (V)	6065	3840	1310	7
2W/U (H)	6085	3860	1290	8
5N (V)	6105	3880	1270	9
3W/L (H)	6125	3900	1250	10
6N (V)	6145	3920	1230	11
3W/U (H)	6165	3940	1210	12
7N (H)	6185	3960	1190	13
4W/L (H)	6205	3980	1170	14
8N (V)	6225	4000	1150	15
4W/U (H)	6245	4020	1130	16
9N (V)	6265	4040	1110	17
5W/L (H)	6285	4060	1090	18
10N (V)	6305	4080	1070	19
5W/U (H)	6325	4100	1050	20
11N (V)	6345	4120	1030	21
6W/L (U)	6365	4140	1010	22
12N (V)	6385	4160	990	23
6W/U (H)	6405	4180	970	24

SD2-1 (C) DATA Possible Data Transmissions (UA)

SD2-2 (C) (none)

SD2-3 (C) (none)

SD2-4 (C)	(none)
SD2-5 (C)	(none)
SD2-6 (C)	(none)
SD2-7 (C)	(none)
SD2-8 (C)	(none)
SD2-9 (C)	(none)
SD2-10 (C)	(none)
SD2-11 (C)	(none)
SD2-12 (C)	(none)
SD2-13 (C)	o/v
SD2-14 (C)	(none)
SD2-15 (C)	(none)
SD2-16 (C)	(none)
SD2-17 (C)	(none)
SD2-18 (C)	(none)
SD2-19 (C) DATA	Possible Data Transmissions (UA)
SD2-20 (C)	(none)
SD2-21 (C)	(none)
SD2-22 (C)	(none)
SD2-23 (C)	(none)
SD2-24 (C)	(none)

1.98 anik-index

- Anik E1
- Anik E2 4 Ghz
- Anik E2 11 Ghz

1.99 anik-e2-ku

TeleSat Canada Anik E2 - C-Band

107.3 degrees West longitude

NORAD: 21222

Satellite Type: Three-axis stabilized

Launched: April 4, 1991 (Ariane)

Inclination: .0161 degrees

Transponder Power: 24 transponders - 11.5 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1A (H)	5945	3720	1430	1
1B (V)	5965	3740	1410	2
2A (H)	5985	3760	1390	3
2B (V)	6005	3780	1370	4
3A (H)	6025	3800	1350	5
3B (V)	6045	3820	1330	6
4A (H)	6065	3840	1310	7
4B (V)	6085	3860	1290	8
5A (H)	6105	3880	1270	9
5B (V)	6125	3900	1250	10
6A (H)	6145	3920	1230	11
6B (V)	6165	3940	1210	12
7A (H)	6185	3960	1190	13
7B (V)	6205	3980	1170	14
8A (H)	6225	4000	1150	15
8B (V)	6245	4020	1130	16
9A (H)	6265	4040	1110	17
9B (V)	6285	4060	1090	18
10A (H)	6305	4080	1070	19
10B (V)	6325	4100	1050	20
11A (H)	6345	4120	1030	21
11B (V)	6365	4140	1010	22
12A (H)	6385	4160	990	23
12B (V)	6405	4180	970	24

E2-1 (C)	DATA	Voice and Data Transmissions (UA)
E2-2 (C)	DATA	Voice and Data Transmissions (UA)
E2-3 (C)	DATA	Voice and Data Transmissions (UA)
E2-3 (C)	COMPR	DIGITAL VIDEO COMPRESSION using
E2-3 (C)		Scientific Atlanta MPEG (UA)
E2-3 (C)		(UA)
E2-3 (C)		- TeleLatino

E2-4 (C)	DATA		Voice and Data Transmissions (UA)
E2-5 (C)	COMPR		Telesat DIGITAL VIDEO COMPRESSION using
E2-5 (C)			SCIENTIFIC ATLANTA MPEG (UA)
E2-5 (C)			- Tele Quatre Saisons
E2-5 (C)			- TV5
E2-5 (C)			- Radio Quebec
E2-5 (C)			- R'eseau de l'information (RDI)
E2-5 (C)			- The Weather Network
E2-5 (C)			- Meteo Media
E2-6 (C)	DATA		Voice and Data Transmissions (UA)
E2-7 (C)	DATA		Voice and Data Transmissions (UA)
E2-8 (C)	LTCH	5.8/6.2, 6.8	Global TV -- primary network
E2-8 (C)			programming channel
E2-8 (C)	ITC	5.8/6.2, 6.8	Global TV -- pre-feed network
E2-8 (C)			shows for affiliates (o/v)
E2-9 (C)	ITC	6.8, 6.2	West Virginia Educational Network
E2-9 (C)			(o/v)
E2-9 (C)			
E2-9 (C)			o/v
E2-10 (C)	DATA		Voice and Data Transmissions (UA)
E2-11 (C)			o/v
E2-11 (C)			
E2-11 (C)	ITC	6.80	Canadian Horse Racing parks (o/v)
E2-12 (C)	ITC	5.76, 5.94	CTV Television Network (BLUE)
E2-12 (C)			[cue on 6.80] (o/v)
E2-12 (C)			
E2-12 (C)			o/v
E2-12 (C)	ITC	6.80	France 2 News (english subtitles) o/v
E2-12 (C)			
E2-12 (C)	ITC	6.8, 6.2	Canadian Satellite Livestock Auction
E2-12 (C)			(o/v)
E2-13 (C)			o/v
E2-13 (C)			
E2-13 (C)	ITC	6.80	Canadian Horse Racing parks (o/v)
E2-14 (C)	DATA		Voice and Data Transmissions (UA)
E2-15 (C)			o/v
E2-15 (C)			
E2-15 (C)	ITC	6.8	Canadian Horse Racing parks (o/v)
E2-16 (C)	ITC	5.76, 5.94	CTV Television Network UA (GREEN)
E2-16 (C)			[cue on 6.80]
E2-17 (C)	V2+		Climaxxx - adult

E2-18 (C)	ITC	6.80	Video Catalog Channel
E2-18 (C)			
E2-18 (C)	ASC	6.20	WOKI-FM, country music
E2-18 (C)			
E2-18 (C)	ASC	5.80	Tech Talk Radio Network
E2-18 (C)			
E2-18 (C)	ATIS	7.10	e6178 1003144678 615 938 xxxx baptist
E2-18 (C)			ss
E2-19 (C)	ITC	6.8	TV Northern Canada -- variety
E2-19 (C)			programming
E2-19 (C)			
E2-19 (C)	ASC	5.41	Data Transmissions
E2-19 (C)			
E2-19 (C)	SCPC	1086.000	Blank audio carrier
E2-19 (C)			
E2-19 (C)	SCPC	1085.500	Blank audio carrier
E2-20 (C)	ITC	6.8/6.2	Newfoundland TV (NTV)
E2-20 (C)			
E2-20 (C)	ASC	5.76/5.96	CHOZ-FM (OZ FM) -- St. Johns,
E2-20 (C)			Newfoundland -- rock format
E2-21 (C)	COMPR		Telesat DIGITAL VIDEO COMPRESSION
E2-21 (C)			using SCIENTIFIC ATLANTA MPEG (UA)
E2-21 (C)			- Reseau des Sports
E2-21 (C)			- MusiquePlus
E2-21 (C)			- Canal Famille
E2-21 (C)			- Super Ecran
E2-21 (C)			- Canal D
E2-22 (C)	V2+		XXXotica - adult
E2-22 (C)			
E2-22 (C)	ATIS	7.10	E880988 1004145568 303 697 XXXX SA751
E2-22 (C)			ATIS
E2-23 (C)	V2+		Exxtreme TV - adult
E2-24 (C)	ITC	5.76, 5.94	CTV Television Network (RED)
E2-24 (C)			[cue on 6.80]

1.100 anik-e2

Telesat Canada Anik E2 - Ku-Band

107.3 degrees West longitude

NORAD: 21222

Satellite Type: Three-axis stabilized

Launched: April 4, 1991 (Ariane)

Inclination: .0161 degrees

Transponder Power: 32 transponders - 50 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq
T01 (V)	14017	11717	967
T02 (V)	14043	11743	993
T03 (V)	14078	11778	1028
T04 (V)	14104	11804	1054
T05 (V)	14139	11839	1089
T06 (V)	14165	11865	1115
T07 (V)	14200	11900	1150
T08 (V)	14226	11926	1176
T09 (V)	14261	11961	1211
T10 (V)	14287	11987	1237
T11 (V)	14322	12022	1272
T12 (V)	14348	12048	1298
T13 (V)	14383	12083	1333
T14 (V)	14409	12109	1359
T15 (V)	14444	12144	1394
T16 (V)	14470	12170	1420
T17 (H)	14030	11730	980
T18 (H)	14056	11756	1006
T19 (H)	14091	11791	1041
T20 (H)	14117	11817	1067
T21 (H)	14152	11852	1102
T22 (H)	14178	11878	1128
T23 (H)	14213	11913	1163
T24 (H)	14239	11939	1189
T25 (H)	14274	11974	1224
T26 (H)	14300	12000	1250
T27 (H)	14335	12035	1285
T28 (H)	14361	12061	1311
T29 (H)	14396	12096	1346
T30 (H)	14422	12122	1372
T31 (H)	14457	12157	1407
T32 (H)	14483	12183	1433

Half-Transponder Note: The downlink frequencies above are already half transponder frequencies.

Note: This is an incomplete list of services on Anik E1 Ku-band based on contributions. My location is too far south to receive the majority of the channels on this satellite, so contributions are always welcome.

Note: Transponders 1-8 are National Beams. 9-16 are Western Beams. 17-20 are National Beams. 21-32 are Eastern Beams.

E2-1 (KU)	DATA	Voice and Data Transmissions (UA)
E2-2 (KU)	DATA	Voice and Data Transmissions (UA)
E2-3 (KU)	DATA	Voice and Data Transmissions (UA)
E2-4 (KU)		o/v

E2-5 (KU)	COMPR		Shaw DIGITAL VIDEO COMPRESSION using
E2-5 (KU)			G.I. Digicipher (UA)
E2-5 (KU)			- Canadian Parliamentary Access Channel
E2-5 (KU)			- Rogers (testing)
E2-5 (KU)			- Rogers (testing/occasional use)
E2-5 (KU)			- Vision - religious
E2-6 (KU)			DIGITAL VIDEO COMPRESSION using G.I.
E2-6 (KU)			Digicipher (UA)
E2-6 (KU)			- MoviePix!
E2-6 (KU)			- The Movie Network 1
E2-6 (KU)			- The Movie Network 2
E2-6 (KU)			- The Movie Network 3
E2-6 (KU)			- The Movie Network 4
E2-7 (KU)	COMPR		Rogers DIGITAL VIDEO COMPRESSION using
E2-7 (KU)			G.I. Digicipher (UA)
E2-7 (KU)			- Viewer's Choice PPV (several
E2-7 (KU)			channels)
E2-7 (KU)			- Prevue Channel
E2-7 (KU)			- Prevue Channel data transmission
E2-8 (KU)	COMPR		Rogers DIGITAL VIDEO COMPRESSION using
E2-8 (KU)			G.I. Digicipher (UA)
E2-8 (KU)			- Allarcom Pay TV PPV (several
E2-8 (KU)			channels)
E2-9 (KU)	DATA		Voice and Data Transmissions (UA)
E2-9 (KU)			
E2-9 (KU)	DATA		DirecPC (Canada)
E2-10 (KU)			o/v
E2-11 (KU)	ITC	5.41, 5.76/5.94	Showcase TV (West) - movies and old
E2-11 (KU)			TV shows
E2-12 (KU)	ITC	5.41, 6.12/6.47	Saskatchewan CommunicaNetwork (SCN)
E2-13 (KU)	DATA		Voice and Data Transmissions (UA)
E2-14 (KU)	DATA		Voice and Data Transmissions (UA)
E2-15 (KU)	DATA		TELESAT CANADA STATIONKEEPING (GLACS)
E2-15 (KU)			UA
E2-16 (KU)	ITC	5.41, 5.76/5.96	Knowledge Network
E2-16 (KU)			
E2-16 (KU)	ASC	6.12	Sangeet Sager - India ethnic
E2-17 (KU)	OAK	5.76/5.94	Discovery Channel - Canada (UA)
E2-18 (KU)			o/v
E2-19 (KU)	ITC	5.41, 6.17	Bravo! - Canada
E2-19 (KU)			
E2-19 (KU)	ASC	6.12/6.30	CFR-FM (CFFR-AM, Calgary, Alberta)

E2-20 (KU) E2-20 (KU)	ITC	5.41	Life Network – life issues (health, home, travel, relationships)
E2-21 (KU)	DATA		Voice and Data Transmissions (UA)
E2-22 (KU)	DATA		Voice and Data Transmissions (UA)
E2-23 (KU) E2-23 (KU)	ITC	5.41, 5.76/5.94	Showcase TV (East) – movies and old TV shows
E2-24 (KU) E2-24 (KU) E2-24 (KU) E2-24 (KU) E2-24 (KU)	ITC		Ontario Legislature
		5.41, 5.94	English language program audio
		6.00	French language program audio
E2-25 (KU) E2-25 (KU) E2-25 (KU)	ITC	5.41, 5.76/5.94	La Chaine (French) -- French version of TV Ontario
E2-25 (KU) E2-25 (KU)	ASC	6.43	Blank audio carrier
E2-25 (KU)	ASC	6.53	Blank audio carrier
E2-26 (KU) E2-26 (KU)	ITC	5.41	TV Ontario (English)
E2-26 (KU) E2-26 (KU)	ASC	5.76/5.94	CJRT-FM, Toronto
E2-26 (KU)	ASC	6.43/6.53	Northern Native Radio
E2-27 (KU) E2-27 (KU)	DATA		Voice and Data Transmissions (UA)
E2-27 (KU)	DATA		DirecPC (Canada)
E2-28 (KU)			o/v
E2-29 (KU)	ITC	5.41, 5.94	RaiUno – Italian channel
E2-30 (KU) E2-30 (KU)	DATA		TELESAT CANADA STATIONKEEPING (GLACS) (UA)
E2-31 (KU)			o/v
E2-32 (KU)			o/v

1.101 anik-e1

TeleSat Canada Anik E1 – C-Band

111 degrees West longitude

NORAD: 21726

Satellite Type: Three-axis stabilized

Launched: September 26, 1991 (Ariane)

Inclination: .0252 degrees

Transponder Power: 24 transponders - 11.5 watts each

Tr.	Uplink Freq in MHz	Downlink Freq in MHz	Block IF Freq	Channel Readout
1A (H)	5945	3720	1430	1
1B (V)	5965	3740	1410	2
2A (H)	5985	3760	1390	3
2B (V)	6005	3780	1370	4
3A (H)	6025	3800	1350	5
3B (V)	6045	3820	1330	6
4A (H)	6065	3840	1310	7
4B (V)	6085	3860	1290	8
5A (H)	6105	3880	1270	9
5B (V)	6125	3900	1250	10
6A (H)	6145	3920	1230	11
6B (V)	6165	3940	1210	12
7A (H)	6185	3960	1190	13
7B (V)	6205	3980	1170	14
8A (H)	6225	4000	1150	15
8B (V)	6245	4020	1130	16
9A (H)	6265	4040	1110	17
9B (V)	6285	4060	1090	18
10A (H)	6305	4080	1070	19
10B (V)	6325	4100	1050	20
11A (H)	6345	4120	1030	21
11B (V)	6365	4140	1010	22
12A (H)	6385	4160	990	23
12B (V)	6405	4180	970	24

E1-1 (C)	DATA		Voice and Data Transmissions (UA)
E1-2 (C)	OAK		The Sports Network -- 24 hour a day
E1-2 (C)			sports programming UA
E1-2 (C)	ASC	6.8	background natural sound/program
E1-2 (C)			audio for TSN
E1-2 (C)	ASC	5.76/5.94	CILQ-FM Q107 Toronto -- rock
E1-2 (C)			format
E1-2 (C)	ASC	5.22	WGN-AM/Interstate Radio Network
E1-2 (C)			
E1-2 (C)	ASC	5.40/5.58	Seltech Radio Syndication service
E1-2 (C)			
E1-2 (C)	ASC	6.12/6.30	Blank audio carriers
E1-2 (C)			
E1-2 (C)	ASC	6.44	CINC-FM, Thompson, Manitoba
E1-2 (C)			
E1-2 (C)	ASC	6.53	Audio Tone
E1-2 (C)			

E1-2 (C)	ASC	7.43	Business Radio Network
E1-2 (C)			
E1-2 (C)	ASC	7.51	One on One Sports Radio Network
E1-2 (C)			
E1-2 (C)	ASC	7.61	Sangeet Sager - India ethnic
E1-2 (C)			
E1-2 (C)	ASC	7.89	CHIN-FM, Toronto -- multilingual prg.
E1-3 (C)	DATA		Voice and data transmissions (UA)
E1-4 (C)	DATA		Voice and data transmissions (UA)
E1-5 (C)	DATA		Voice and data transmissions (UA)
E1-6 (C)	COMPR		Cancom DIGITAL VIDEO COMPRESSION
E1-6 (C)			using SCIENTIFIC ATLANTA MPEG UA
E1-6 (C)			(All Cancom tr. and services known.
E1-6 (C)			I don't know what service is using
E1-6 (C)			which transponder, so these are
E1-6 (C)			possible services on this tr.)
E1-6 (C)			- WHDH-TV, Boston (NBC)
E1-6 (C)			- WGBH-TV, Boston (PBS)
E1-6 (C)			- WBZ-TV, Boston (CBS)
E1-6 (C)			- WCVB-TV, Boston (ABC)
E1-6 (C)			- CITV-TV, Edmonton (Ind.)
E1-7 (C)	DATA		Voice and data transmissions (UA)
E1-8 (C)	COMPR		Cancom DIGITAL VIDEO COMPRESSION
E1-8 (C)			using SCIENTIFIC ATLANTA MPEG UA
E1-8 (C)			(All Cancom tr. and services known.
E1-8 (C)			I don't know what service is using
E1-8 (C)			which transponder, so these are
E1-8 (C)			possible services on this tr.)
E1-8 (C)			- CHCH-TV, Hamilton, Ontario (Ind.)
E1-8 (C)			- CFTM-TV, Montreal (TVA Network)
E1-8 (C)			- CITY-TV, Toronto, Ontario (Ind.)
E1-8 (C)			- WUHF-TV, Rochester, NY (FOX)
E1-8 (C)			- CHAN-TV "BCTV", Vancouver (CTV)
E1-9 (C)			o/v
E1-9 (C)			
E1-9 (C)	ITC	6.80	Canadian Horse Racing (o/v)
E1-10 (C)	COMPR		Cancom DIGITAL VIDEO COMPRESSION
E1-10 (C)			using SCIENTIFIC ATLANTA MPEG UA
E1-10 (C)			(All Cancom tr. and services known.
E1-10 (C)			I don't know what service is using
E1-10 (C)			which transponder, so these are
E1-10 (C)			possible services on this tr.)
E1-10 (C)			- KCTS-TV, Seattle (PBS)
E1-10 (C)			- KSTW-TV, Tacoma (CBS)
E1-10 (C)			- KOMO-TV, Seattle (ABC)
E1-10 (C)			- KING-TV, Seattle (NBC)
E1-10 (C)			- KCPQ-TV, Seattle (FOX)
E1-11 (C)	ITC	6.8, 6.12	CBC C -- CBC North Pacific feed

E1-11 (C)			(English)
E1-11 (C)			
E1-11 (C)	ASC	6.30	Data Transmissions
E1-11 (C)			
E1-11 (C)	ASC	7.72	Blank audio carrier
E1-11 (C)			
E1-11 (C)	SCPC	1246.000	Radio Canada
E1-11 (C)			
E1-11 (C)	SCPC	1245.500	CBC Radio - Yukon
E1-12 (C)	COMPR		Cancom DIGITAL VIDEO COMPRESSION
E1-12 (C)			using SCIENTIFIC ATLANTA MPEG UA
E1-12 (C)			(All Cancom tr. and services known.
E1-12 (C)			I don't know what service is using
E1-12 (C)			which transponder, so these are
E1-12 (C)			possible services on this tr.)
E1-12 (C)			- WXYZ-TV, Detroit (ABC)
E1-12 (C)			- WDIV-TV, Detroit (NBC)
E1-12 (C)			- WTVS-TV, Detroit (PBS)
E1-12 (C)			- WTOL-TV, Toledo (CBS)
E1-12 (C)			- KIRO-TV, Seattle (Ind.)
E1-13 (C)	ITC	6.2, 6.8	CBC E -- Various news feeds and
E1-13 (C)			network programming (o/v)
E1-13 (C)			
E1-13 (C)	ITC	6.8, 6.2	EuroNews and other news feeds (o/v)
E1-13 (C)			
E1-13 (C)	SCPC	1206.000	CBC Radio - southwestern Northwest
E1-13 (C)			Territories
E1-14 (C)	COMPR		Cancom DIGITAL VIDEO COMPRESSION
E1-14 (C)			using SCIENTIFIC ATLANTA MPEG UA
E1-14 (C)			(All Cancom tr. and services known.
E1-14 (C)			I don't know what service is using
E1-14 (C)			which transponder, so these are
E1-14 (C)			possible services on this tr.)
E1-14 (C)			- CFMT-TV, Toronto (Ind. multilingual)
E1-14 (C)			- CFCF-TV, Montreal (CTV)
E1-14 (C)			- CFJP-TV, Montreal (TQS)
E1-14 (C)			- KARE-TV, Minneapolis (NBC)
E1-14 (C)			- WCCO-TV, Minneapolis (CBS)
E1-15 (C)	ITC	6.8	CBFT -- French language CBC
E1-15 (C)			programming (CBC A)
E1-15 (C)			
E1-15 (C)	ASC	5.4/5.58	Radio Canada (French
E1-15 (C)			Language)
E1-15 (C)			
E1-15 (C)	ASC	5.76	Radio Canada (French
E1-15 (C)			Language)
E1-15 (C)			
E1-15 (C)	ASC	7.56	Blank audio carrier
E1-15 (C)			
E1-15 (C)	ASC	5.96	Blank audio carrier
E1-15 (C)			
E1-15 (C)	ASC	6.12	Blank audio carrier
E1-15 (C)			

E1-15 (C)	ASC	6.32	Data Transmissions
E1-15 (C)			
E1-15 (C)	ASC	7.40	Blank audio carrier
E1-15 (C)			
E1-15 (C)	SCPC	1166.000	CBC Radio - Eastern Northwest Territories Service
E1-15 (C)			
E1-16 (C)	OAK		CBC Newsworld -- CBC 24 hour a day news service UA
E1-16 (C)			
E1-16 (C)			
E1-16 (C)	ASC	5.40/7.58	CBC Radio -- English Language
E1-16 (C)			
E1-16 (C)	ASC	5.58	CBC Radio -- English Language
E1-16 (C)			
E1-16 (C)	ASC	5.78/5.96	CBC-FM -- fine arts programming
E1-16 (C)			
E1-16 (C)	ASC	6.12/6.30	CBC Stereo Radio (English)
E1-16 (C)			
E1-16 (C)	ASC	6.80	Blank audio carrier
E1-16 (C)			
E1-16 (C)	ASC	7.44	Voice Print -- Sight-impaired reading service
E1-16 (C)			
E1-17 (C)	ITC	6.2, 6.8	CBC D -- Various news feeds and network programming (o/v)
E1-17 (C)			
E1-17 (C)			
E1-17 (C)	SCPC	1126.000	CBC Radio - northern Northwest Territories
E1-17 (C)			
E1-17 (C)			
E1-17 (C)	SCPC	1125.500	CBC Radio - Newfoundland/Labrador
E1-18 (C)			
E1-18 (C)			o/v
E1-18 (C)			
E1-18 (C)	ITC	6.80	Canadian horse racing (o/v)
E1-19 (C)			
E1-19 (C)	ITC	6.2, 6.8	CBC M -- Various news feeds and network programming (o/v)
E1-19 (C)			
E1-19 (C)			
E1-19 (C)	SCPC	1086.000	CBC Radio - Quebec/Labrador
E1-20 (C)			
E1-20 (C)	ITC	6.8	CBMT, Montreal -- CBC English Network station (CBC H)
E1-20 (C)			
E1-20 (C)			
E1-20 (C)	ASC	5.38/5.58	CBC Radio -- French Language
E1-20 (C)			
E1-20 (C)			
E1-20 (C)	ASC	5.78	CBC Radio affiliate service (o/a)
E1-20 (C)			
E1-20 (C)			
E1-20 (C)	ASC	5.96	Blank audio carrier
E1-20 (C)			
E1-20 (C)	ASC	6.12	CBM-AM -- CBC Radio English Language
E1-20 (C)			
E1-20 (C)			
E1-20 (C)	ASC	6.30	Blank audio carrier
E1-20 (C)			

E1-20 (C)	ASC	7.38	CBC Radio -- French Language
E1-20 (C)			
E1-20 (C)	ASC	7.58	Blank audio carrier
E1-21 (C)	SCPC		VOCM-FM, St Johns, Newfoundland
E1-21 (C)			(Comstream digital stream) UA
E1-21 (C)			
E1-21 (C)	SCPC	1024.300	Weather Conditions/Warnings
E1-21 (C)			
E1-21 (C)	SCPC	1036.700	Background Music - Wal-Mart In-Store
E1-21 (C)			Network?
E1-21 (C)			
E1-21 (C)	SCPC	1037.000	Wal-Mart In-Store Network
E1-21 (C)			
E1-21 (C)	SCPC	1037.500	Background Music - Wal-Mart In-Store
E1-21 (C)			Network?
E1-21 (C)			
E1-21 (C)	DATA		Voice and data transmissions (UA)
E1-22 (C)			
E1-22 (C)			o/v
E1-22 (C)			
E1-22 (C)	ITC	6.80	Canadian horse racing (o/v)
E1-23 (C)			
E1-23 (C)	ITC	6.8	CBC North -- CBC North Atlantic feed
E1-23 (C)			(CBC B)
E1-23 (C)			
E1-23 (C)	ASC	6.12	Blank audio carrier
E1-23 (C)			
E1-23 (C)	ASC	6.32	Data Transmissions
E1-23 (C)			
E1-23 (C)	ASC	7.72	Blank audio carrier
E1-24 (C)			
E1-24 (C)	DATA		Voice and Data Transmissions (UA)

1.102 telecom

F R E N C E T E L E C O M M A I N M E N U

- Telecom 1 C 4,8,12 Ghz
- Telecom 2 A 4,8,12 Ghz
- Telecom 2 B 4,8,12 Ghz

1.103 tcom1c

3 East TELECOM 1C				Dish size : 1 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	3.710	RC	Feeds						c1a
T	3.740	RC	Feeds						c1b
T	3.770	RC	Feeds						c2a
T	3.795	RC	Feeds						c2b
T	12.522	V	Feeds						r1
T	12.542	H	Feeds						r7
T	12.563	V	Feeds						r2
T	12.585	H	Feeds						r8
T	12.606	V	Feeds						r3
T	12.627	H	Cin-Cinfil	D2-MAC	-	EuM	French	TONE1 HQ	r9
T	12.648	V	Feeds						r4
T	12.690	V	Feeds						r5
T	12.710	H	Feeds						r11
T	12.732	V	Feeds						r6

tcom 1c

1.104 tcom2a

8.0 West TELECOM 2A <1992>				Dish size : 0.6 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
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T	3.710	RC	Feeds						c1a
T	3.740	RC	Feeds						c1b
T	3.770	RC	Feeds						c2a
T	3.795	RC	Feeds						c2b
T	12.522	V	Canal Plus France	D2-MAC	-	EuM	French	TONE1 HQ	k1
T	12.544	H	MCM Euromusique	SECAM	-	Nag	French	7.02 7.20	k7
T	12.564	V	Paris Premire	SECAM	-	Nag	French	6.60-	k2
T	12.585	H	Plante	SECAM	-	Nag	French	6.60-	k8
T	12.606	V	France Supervision	D2-MAC	x	-	French	TONE1 HQ	k3
T	12.627	H	Cin-Cinfil	SECAM	-	Nag	French	6.60-	k9
T	12.648	V	Canal Plus France	SECAM	-	Nag	French	6.60-	k4
T	12.669	H	Cin-Cinmas	SECAM	-	Nag	French	6.60-	k10
T	12.690	V	Cin-Cinmas	D2-MAC	-	EuM	French	TONE1 HQ	k5
T	12.711	H	TV Sport	SECAM	-	Nag	French	6.60-	k11
T	12.732	V	Canal J/Canal Jimmy	SECAM	-	Nag	French	6.60-	k6

1.105 tcom2b

5.0 West TELECOM 2B <1992>				Dish size : 0.6 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T	3.710	RC	Feeds					6.60-	c1a
T	3.740	RC	Feeds					6.60-	c1b
T	3.770	RC	Feeds					6.60-	c2a
T	3.795	RC	Feeds					6.60-	c2b
T	12.522	V	M6 - Mtropole 6	SECAM	-	-	French	5.80j	k1
T	12.544	H	RTL 9	SECAM	-	Yes	French	6.60j	k7

T 12.564 V	France 2	SECAM	x	-	French	5.80j	k2
T 12.584 H	La Chaîne Info	SECAM	-	Nag	French	5.80j	k8
T 12.606 V	arte (CET 19-1)	SECAM	x	-	French	5.80j	k3
T 12.606 V	La Cinquime (CET 1-19)	SECAM	x	-	French	5.80j	
T 12.627 H	RTL-TVi	PAL	-	Yes	French	6.60j	k9
T 12.648 V	Tele Monte Carlo	SECAM	-	Nag	French	5.80j	k4
T 12.648 V	La Chaîne Mte (6-9 CET)	SECAM	-	-	French	5.80j	
T 12.689 V	TF 1 - Tlvision Franaise	SECAM	x	-	French	5.80j	k5

1.106 dbs

DIRECT BROADCASTING SATELLITE

Sirius

Tdf

Tele-X

Thor 1A

Tv Sat

TurkSat 1B

HispaSat

1.107 sirius

5.2 East SIRIUS <1990>		Dish size : 0.4 m					
A VIDEO	PO PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T 11.785 RC							4
T 11.862 RC	Z-TV Sverige	D2-MAC	x	EuM	Swedish	TONE1 HQ	8
T 11.938 RC	TV 4 Sverige	PAL	x	-	Swedish	7.02 7.20	12
T 12.015 RC	TV 6/TV-G (monday-friday)	D2-MAC	x	EuM	Swedish	TONE1 HQ	16
T 12.015 RC	Sportskanalen (saturd./sund.)	D2-MAC	x	EuM	Swedish	TONE1 HQ	16
T 12.092 RC	TV 3 Sverige	D2-MAC	x	EuM	Swedish	TONE1 HQ	20

1.108 tdf

18.8 West TDF 1 <1987> og TDF 2 <1989>		Dish size : 0.6 m					
A VIDEO	PO PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
T 11.804 RC	Canal Plus	D2-MAC	-	EuM	French	TONE1 HQ	5
T 11.881 RC	Cin-Cinmas	D2-MAC	x	EuM	French	TONE1 HQ	9

|T|12.034|RC|Canal France International |D2-MAC| |EuM|French |TONE1 HQ |17 |

1.109 tele-x

5.0 East TELE - X <1989> Dish size : 0.4 m

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	12.207	LC	Baltic University (feeds)	PAL	-	-	Miscel.	6.60	26
T	12.322	LC	DR, Danish TV2, Swedish 1+2	MPEG-2	x	-	SweDan		32
T	12.475	LC	Kanal Fem	PAL	x	-	Swedish	7.02 7.20	40
T	12.600	LC	Z-TV Norge	MPEG			Norwegen		
T	12.605	LC	Z-TV Danmark	MPEG			Danish		
T	12.641	LC	Norret (tues/wedn. afternoon)	PAL	-	-	Swedish	6.60	
T	12.668	LC	Z-TV S+DK+N and TV 6 S+DK+N	MPEG-2			SwDaNo		

1.110 thor-1

0.8 West THOR <1990> Dish size : 0.4 m

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	11.785	RC	CNN International	D2-MAC	x	Eu2	English	TONE1 HQ	4
T	11.861	RC	EuroSport Nordic	D2-MAC	x	Eu2	Eng/Swe	TONE1 HQ	8
T	11.938	RC	Children's Channel (CET7-17)	D2-MAC	x	Eu2	English	TONE1 HQ	12
T	11.938	RC	Discovery Channel (CET17-1)	D2-MAC	x	Eu2	English	TONE1 HQ	
T	12.015	RC	FilmNet 2	D2-MAC	x	Eu2	English	TONE1 HQ	16
T	12.091	RC	MTV Europe	D2-MAC	x	Eu2	English	TONE1 HQ	20

1.111 tvsat

0.6 West TV-SAT <1989> Dish size : 0.4 m

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	11.900	LC	TV1000 Cinema	D2-MAC	-	EuM	Swedish	TONE1 HQ	10
T	11.977	LC	Z-TV Danmark (encrypt.plan.)	D2-MAC	-	-	Danish	TONE1 HQ	14
T	12.054	LC	TV 6 / TV-G Danmark	D2-MAC	-	-	Danish	TONE1 HQ	18

1.112 turk1a

42 East TRKSAT <1994> Dish size: 2.5 m (EB = 0.8 m)

A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
-	-----	--	-----	-----	--	---	-----	-----	---
T	10.970	V	atv Int. (Europa-Beam)	PAL	-	-	Turkish	6.60	
T	10.980	H	HBB	PAL	-	-	Turkish	7.02 7.20	4
T	11.012	V	Kanal 7 (Europa-Beam)	PAL	-	-	Turkish	6.60	5
T	11.030	H	Kanal D (Europa-Beam)	PAL	-	-	Turkish	6.60	13

T 11.054 V Feeds						
T 11.080 H Kanal 6	PAL	-	-	Turkish 6.65	14	
T 11.096 V Samanyolu TV	PAL	-	-	Turkish 6.65	7A	
T 11.120 V Feeds					7B	
T 11.130 H Cine 5	PAL	-	Nag Turkish 6.65	15		
T 11.145 V Euro Show (Europa Beam)	PAL	-	-	Turkish 6.65	8a	
T 11.175 H Show TV	PAL	-	-	Turkish 6.65	16	
T 11.183 V Kanal D	PAL	-	-	Turkish 6.65	8b	
T 11.462 H Kanal 7	PAL	-	-	Turkish 6.65	9	
T 11.479 V TRT International (Asia-Beam)	PAL	x	-	Turkish 6.80s	1a	
T 11.508 V Feeds					1b	
T 11.556 H TRT 1	PAL	x	-	Turkish 6.80s	10a	
T 11.592 H TRT 2 / GAP	PAL	x	-	Turkish 6.80s	10b	
T 11.644 H TRT 3	PAL	x	-	Turkish 6.80s	11a	
T 11.678 V Feeds					3	
T 11.680 H TRT 4	PAL	x	-	Turkish 6.80s	11b	
T 11.690 V Feeds					2	

1.113 pas

P a n A m S a t

Pan Am Sat 1

Pan Am Sat 3

Pan Am Sat 4

1.114 pas1

45 West		PANAMSAT 1		Dish size : >1 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
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T	11.478	H	Feeds	PAL				6.20-6.80	19a
T	11.515	H	Galavisi�n	PAL	-	-	Spanish	6.20-6.80	19b
T	11.595	H	Feeds	PAL					20b
T	11.639	H	Feeds	PAL				6.20-6.80	21a
T	11.675	H	ESPN	B-MAC	-	x	English	Digital	21b

1.115 pas3

43 West		PANAMSAT PAS-3-R							
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
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T	4.100	V	Tests						14c
T	4.147	V	Tests						16c
T	4.165	V	Tests						16c

T 12.501 V Tests					16k
T 12.567 H Sesanta Sport	PAL	-	-	English 6.60-	18k
T 12.670 V Tests					22k
T 12.716 V Tests				←	
8k					
T 12.730 H Tests				6.60-	24k

1.116 pas4

68.5 East PANAMSAT PAS-4				Dish size: 3 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
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T	3.790	H	Asian Business News	PAL	-	-	Asian?	6.80-	9c
T	3.850	V	China TV4	PAL	-	-	Chinese	6.60-	6u
T	3.915	H	Sony Entertainment TV	PAL	-	-	Hindu	7.20-	7c
T	4.040	V	India TV	PAL	-	-	Maleis	6.30-6.80	11u
T	4.040	V	Movie Club	PAL	-	-	Maleis	6.30-6.80	
T	4.100	H	CNN International (Asia)	PAL	-	-	English	6.80-	13l
T	4.115	H	TNT/Cartoon Network (Asia)	PAL	-	-	English	6.80-	13u
T	4.153	V	BBC World	PAL	-	-	English	6.60-	16c
T	4.165	H	Jain	PAL	-	-	Hindu	6.80-	15l
T	4.185	H	MTV Asia	PAL	-	-	Asian?	7.60-7.80	15u
T	11.524	H	ART 3/5	PAL	-	-	Arabic	6.60-	19k
T	11.584	H	Showtime	PAL	-	-	Arabic	7.56-7.74	21k
T	11.649	H	ART Europe	PAL	-	-	Arabic	6.60-	23k
T	12.574	V	ART 1/3	PAL	-	-	Arabic	6.60-	
T	12.591	V	NHK Tokyo	NTSC	-	-	Miscel.	6.80-7.50	20k

1.117 orion

37.5 West ORION-1 <1995>				Dish size : 1.5 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
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T	11.468	V	Feeds					6.60-	5l
T	11.469	H	Feeds					? -	14l
T	11.483	V	Feeds					6.60-	5
T	11.496	H	Feeds					? -	14u
T	11.498	V	Feeds					? -	5u
T	11.533	H	Feeds					6.65-	15
T	11.546	V	Feeds					? -	6
T	11.559	V	Feeds					6.60-	6u
T	11.596	H	Asia Net	PAL	x	-	Hindi	6.60-	16
T	11.618	V	Feeds					6.60-	7l
T	11.619	H	Feeds					6.60-	17l
T	11.640	V	Feeds					? -	7u
T	11.672	V	Feeds					? -	7
T	11.672	H	Feeds					6.20-	17u
T	11.684	H	Feeds					6.65-	12l
T	12.514	V	Feeds					? -	1l
T	12.514	H	Feeds					6.60-	9l
T	12.528	H	Feeds					6.60-	9

T 12.530 V Feeds					? -	1
T 12.542 H Feeds					6.60-	9u
T 12.544 V Feeds					? -	1u
T 12.577 H Feeds					6.60-	10l
T 12.585 V Feeds					6.60-	2
T 12.591 H Feeds					6.60-	10
T 12.605 H Feeds					6.60-	10u
T 12.640 V Feeds					? -	3l
T 12.645 H Feeds					6.60-	11
T 12.668 V Korea TV (CET 20-21)	PAL	-	-	Korean	6.60-	3u
T 12.699 H Feeds					? -	12
T 12.703 V Feeds					? -	4l
T 12.717 V Feeds					? -	4
T 12.726 H Feeds					? -	13
T 12.740 V Feeds					? -	4u

1.118 hps

30.5 West HISPASAT 1A/1B				Dish size : 1 m					
A	VIDEO	PO	PROGRAM	VIDSTD	VT	COD	LANGUAG	AUDIO	TP#
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T	11.510	V	Feeds					? -	7a
T	11.517	H	Feeds					? -	16a
T	11.536	V	Feeds					6.60-	7b
T	11.538	V	Feeds					6.60-	16b
T	11.577	V	Feeds					6.60-	17b
T	11.595	V	Feeds					? -	8a
T	11.597	V	Feeds					6.60-	17a
T	11.653	V	Feeds					6.60-	9b
T	11.668	V	Feeds					6.60-	18
T	11.677	V	Taurus (Package for Cable-TV)	MPEG-2			Spanish		9a
T	12.149	LC	Tele Deporte	PAL	x	-	Spanish	6.60-	23
T	12.226	LC	Canal Cl~sico	PAL	x	-	Spanish	6.60-	27
T	12.303	LC	Canal 31 / Cinemania 2	PAL	-	Nag	Spanish	6.60-	31
T	12.380	LC	Telesat 5	PAL	-	-	Spanish	6.60-	35
T	12.456	LC	Tele Noticias (CET 0-15)	PAL	-	-	Spanish	6.60-	39
T	12.591	V	Canal Sur	PAL	-	-	Spanish	6.65-	11
T	12.631	V	Tele 5 Espaªa	PAL	-	-	Spanish	6.60-	12
T	12.671	H	Antena 3 TV	PAL	-	-	Spanish	6.60-	13
T	12.671	V	TV Catalunya	PAL	-	-	Catalan	6.60-	4
T	12.711	H	Canal Plus Espaªa	PAL	-	Vid	Spanish	6.60-	14