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Development of Digital TV in Europe

2000 Report

Germany

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Contents

1. Digital TV market overview

With close to 37 million[1] TV households, Germany is the largest television market in Europe, and also the largest cable TV (about 19.8 million households connected at the end of 1999) and satellite market (12.1 million households). Digital television services, however, have experienced a rather slow deployment, and the market still lags behind its counterparts in the UK, France and Italy. A major reason for this rather dissatisfying development is the competition from the large offer of free-to-air TV programmes. About 87 % of all TV households receive about 30 free-to-air programmes, either via cable or satellite.

The most important event during the period from July 1999 to June 2000 was the launch of Premiere World in October 1999, after the merger of DF1 and Premiere. The new service took over the subscribers of former DF1 and of Premiere digital. It attracted 320,000 new subscribers in the first three months. At the end of June 2000, Premiere World (digital) had about 1.5 million subscribers. After four years of incredible financial efforts to prepare the market, digital television finally seemed to get off the ground in Germany. However, the total subscriber base (including the analogue service) of Premiere World has hardly increased since the beginning of 2000.

A short history of digital TV and pay-TV in Germany

1985	• Foundation of "Teleclub" in Germany (and in Switzerland) as a joint venture of Kirch Group, UFA and Axel Springer Verlag
1986	• Launch of Teleclub programme in Germany
1990	• Foundation of Premiere by UFA, Canal Plus and Kirch Group. Premiere takes over the 70,000 subscribers of Teleclub.
1991	• Launch of Premiere (28th February), an analogue pay-TV package offering premium content such as movies and sports events.
1994	• Foundation of Media Service GmbH (MSG) as a joint venture of Bertelsmann, Kirch Group and Deutsche Telekom AG. MSG is intended establish a common marketing platform for digital TV, but the cartel office of the European Commission objects to this co-operation (1995).

[1] Figures for the number of German TV households differ widely. In its annual statistical report, the European Audiovisual Observatory (EAO) states that there were 37.4 million TV households in 1998. GfK-Fernsehforschung, however, only counts 33.1 million TV households (1998). Given the fact that there were about 37.5 million households in total (1998 – figure by Federal Statistical Office), the EAO figure seem extremely high, since they suggest a household penetration of 99.7 %. This study uses the EAO data for the period from 1993 to 1997, with a correction of the data provided for 1998. Since official figures for 1999 are not yet available, the number of TV households for that year has been estimated.

1995	• Second attempt to introduce digital TV in Germany on a broader basis: plans to launch the Multimedia Betriebsgesellschaft (MMBG) as a partnership assembling national public broadcasters ARD and ZDF, Canal+, CLT, Bertelsmann and Deutsche Telekom. • Premiere presents an EPG at IFA in Berlin as the first component of a digital offer. • CLT launches its own digital pay-TV project, Club RTL.
1996	• Premiere (analogue) has 1 million subscribers. • With support of Vebacom and Metro, Kirch Group launches the d-box as their own decoder. • Bertelsmann, Canal Plus, Havas and BSkyB agree to join in a digital TV alliance, Newco. • CLT and UFA merge into CLT-UFA • EU accepts the foundation of MMBG. • In July, Kirch Group launches DF1, the first digital pay-TV package in Germany. • BskyB leaves Newco and intends to join DF1. Canal Plus, too, wants to negotiate with Kirch Group. The Newco Alliance breaks up in September. • CLT stops its digital pay-TV project Club RTL
1997	• BSkyB and DF1 terminate their partnership. • Kirch and CLT-UFA agree to co-operate in their digital TV ventures. • Kirch, CLT-UFA and Telekom agree to use the d-box as the platform for digital TV. • Canal+ sells its Premiere shares to Kirch Group. • At the IFA '97 fair in Berlin, the public service broadcasters ARD and ZDF introduced their own free TV digital programme packages. • On 1st November, Bertelsmann AG starts Premiere Digital, a digital pay-TV package comprising Premiere 1 and 2 and four pay-per-view channels.
1998	• The European Commission denies its approval of the alliance of Kirch Group, CLT-UFA and Deutsche Telekom within BetaResearch
1999	• Foundation of KirchPayTV, the Holding for all pay-TV ventures of Kirch Group • DF 1 and Premiere merged into PREMIERE WORLD. CLT-UFA sells its shares of Premiere to KirchPayTV except for five percent of the shares of Premiere World. • Premiere World is launched on 1st October. • BSkyB joins KirchPayTV. BSkyB pays 2.9 billion DM (1.45 billion Euro) plus 4.3 % of its own shares for 24 percent of the shares of KirchPayTV, its new partner. The IPO of KirchPayTV (20 % of the shares) is planned for 2003. • Deutsche Telekom launches MediaVision as a platform to market digital TV services on its cable network.

2000	• On 21st March, the European Commission approves the deal between BSkyB and KirchPayTV, including significant remedies to prevent market foreclosure.

1.1.Roll-out of digital services

Access to digital TV services in Germany is possible either via cable TV networks or via satellite. Digitisation of terrestrial TV is being tested in a number of trials but not yet operational as a regular service.

Satellite digital services

The penetration of private satellite dishes in German households is quite high compared to the European average. About 12.1 million households in Germany (33% of TVHH) receive television programmes via satellite. 7.7 million of these are private dishes, about 4.4 million households are connected to a community dish for a block of flats (SMATV).

There is no official statistics about how many of these dishes are capable of receiving digital programmes. i.e. are equipped with a digital LNC. In June 2000, about 600,000 households were subscribers to the digital pay-TV programmes available through ASTRA satellites 1E, 1F, and 1G.

The following genuine German digital services are offered via digital satellite (for a more detailed description of these services see chapter 1.2 "Details of services"):

Service	Type of service	No. of satellite subscribers / consumers
Premiere World	pay-TV (packages, pay-per-view)	600,000 (40 % of the total subscriber base)[2]
ARD digital and ZDF.vision	free-to-air digital packages of the public service broadcasters (no figures available, since these packages do not require subscription).	no figures available
RTL World	free-to-air digital package of the commercial broadcaster RTL	no figures available
tm 3 digital	free-to-air digital package of the commercial broadcaster tm3	no figures available
VOX (Reisekanal & Servicekanal)	free-to-air digital packages of the commercial broadcaster VOX focusing on travel and service info	no figures available

[2] information provided by Premiere World, 10th August 2000 (questionnaire)

Most of the major receivable commercial programmes such as RTL, Sat1, Kabel1 and ProSieben are transmitted via satellite both in analogue and digital standard (via SES-ASTRA and/or EUTELSAT). Digital satellite households therefore receive the full range of German TV programmes plus foreign channels which are available with a digital receivers ("free-to-air decoders" / "CICAM" receivers). German households with a digital receiver have access to about 150 free-to-air digital TV programmes and 200 radio programmes.[3]

The diffusion of digital satellite receivers in Germany is not as fast as in France or Spain. SES/ASTRA estimated the total number of digital satellite receivers in Germany, Austria and Switzerland at about 160,000 units for the end of 1999.[4]

Cable digital services

Cable networks are still playing a most important role in the development of digital television markets. The history of DF1 in 1996 and 1997 shows that the service had enormous problems as long as it was not fed into the cable networks. Although the technical advancement of satellite and terrestrial TV (and also ADSL) will increase the competition in the infrastructure layer, cable networks are likely to keep their dominant position for the distribution of digital TV services.

Basic figures

About 19.8 million[5] households in Germany, i.e. about 53% of all TV households, are connected to a cable TV network. These households are paying a subscription fee to the cable network provider (either to Deutsche Telekom or to a private cable operator) for the use of the cable infrastructure. The fee is usually between 20 and 26 DM per month (10 - 13 Euro), depending on the number of units connected per building. From a subscriber's perspective, the cable fee is clearly paid for content, i.e. access to a package of programmes, although they are in fact paying the infrastructure provider and not the content providers. But this type of "basic subscription" to a cable network is a prerequisite to be able to subscribe to a "premium (pay-TV) service" such as Premiere or MediaVision via cable.

In June 2000, about 60% (i.e. 900,000 households) of subscribers to digital pay-TV service Premiere World received the service via cable TV networks. Together with subscribers to MediaVision and the pay-TV service of cable operator PrimaCom, there about 1 million subscribers to digital cable TV services.

[3] INFOSAT, 8/2000, p. 44

[4] SES/ASTRA, German Satellite Monitor, Infratest Burke

[5] Figure includes subscribers to Deutsche Telekom (17.8 million) and subscribers to other (private) cable TV networks (estimate: about 2.0 million).

Digital services via cable networks in Germany

Genuine German digital services offered via cable networks are (for a more detailed description of these services see chapter 1.2 "Details of services"):

Service / provider	Type of service	No. of satellite subscribers / consumers
Premiere World	pay-TV (packages, pay-per-view), subscriber management is performed by MediaVision	900,000 [6]
MediaVision (by Deutsche Telekom)	digital service by Deutsche Telekom, including free services and (optional) pay-TV packages	no figures available (confidential matter)
ARD digital and ZDF.vision	free-to-air digital packages of the public service broadcasters – fed into the network of Deutsche Telekom in all of the 16 Bundeslaender	unknown
PrimaCom	digital pay-TV packages offered by Leipzig based cable network operator Primacom (since May 2000)	~ 40,000

If the digital packages of RTL World and tm3 are fed into a cable network depends in most of the Laender on the decision of the network operator.

Digitisation and upgrades of the cable networks

Deutsche Telekom updated and digitised its cable TV network according to international standards for DVB Digital Video Broadcasting. The major effort was taken in 1998, and digitisation was finished by the end of that year. As a result, all of the 17.8 million households connected to Deutsche Telekom cable are technically in a position to receive digital services (e.g. Premiere World, MediaVision).[7] About 26 million German households are passed by the network of the Deutsche Telekom and could technically be connected.

In the mid 1990s, the broadband network was upgraded from 300 Mhz to 450 Mhz. DT invested 2 billion DM to digitise the network. Today, the broadband network can carry 33 analogue TV programmes, 80 digital TV programmes and 36 UKW radio programmes. In addition, 13 digital hyperband channels are available (S 26 – S 38), each carrying up to 10 single programmes. The Landesmedienanstalten demand that cable capacities should be

[6] information provided by Premiere World, 10th August 2000 (questionnaire)

[7] At the end of 1997, only about 500,000 cable TV households were in a position to access digital services (information by DT). There are no figures available on the percentage of digitisation of the smaller private cable networks.

further increased from 450 to 862 Mhz, in order to provide enough capacity to cover new programmes.[8]

In fact, there was some criticism that Deutsche Telekom would deliberately hesitate to further advance the technical infrastructure of its cable network with regard to bi-directionality, i.e. the implementation of a return channel for interactive services. The major reason is related to the ownership structure in the German market for cable TV networks. Deutsche Telekom operates the underlying technical network for about 90 % of German cable households. Yet, it only reaches about 30% of cable TV subscribers directly. 70% of the subscribers are served by small cable operators on the last mile. They provide the connection between the basic backbone of Deutsche Telekom and the households.

In these cases, subscription fees are paid to the private cable operator, and Deutsche Telekom only receives a small percentage of these revenues. In May 1999, Franz Arnold, responsible for the broadband cable of the Telekom, declared that the Deutsche Telekom would not make new investments before parts of the cable network are sold. Otherwise, DT would only bear the investment cost without earning back the (long-term) revenues.[9] The position of Telekom is understandable looking at the losses DT has made with the cable network in previous years. In 1997 the Deutsche Telekom cable net balanced with a loss of about 660 million Euro. In 1998, the deficit was about 300 million Euro, in spite of an increase of fees for basic cable subscription of about 15 % at the end of 1997. Only in 1999, the cable business was profitable.[10]

Deutsche Telekom's show-case for future cable technology is Berlin. Together with private network operators in Berlin, Deutsche Telekom builds a broadband network which enables 680,000 households to receive additional 13 analogue and 25 digital programmes and offers telephony and internet services. Initially, about 20,000 of these households should be equipped with a back-channel. Now it is the intention to implement a back-channel in all of the households connected. Telekom talks about a "full-service-network".[11]

Interactive services offered by private cable network operators

Private cable network operators themselves are also prepared to launch interactive services. **PrimaCom**, for instance, the fourth largest network operator in Germany after DT, Telecolumbus and Bosch, has announced to offer interactive pay-TV, multimedia and telephone services over its broadband network to the 250,000 households connected by the end of this year. This requires to upgrade the network with a back-channel in order to enable viewers to order services.[12] In May 2000, the service was available to 42,000 households. The company offers its own digital pay-TV packages ("Family", "Lifestyle", "Sport", "Music") and pay-per-view services. PrimaCom follows the strategy to secure their own rights for content to be distributed rather than becoming dependent from other content providers.[13]

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[8] tendenz, 1/2000:"Kabelnetze – Multimedia-Plattformen der Zukunft?"

[9] cf. epd medien, May 22nd, 1999.

[10] tendenz, 1/2000: "Kabelnetze – Multimediaplattform der Zukunft?"

[11] tendenz, 1/2000; Kabel u. Satellit, 36/99, 6th Sept. 1999.

[12] Wirtschaftswoche, 8th June 2000: "Bröckelndes Monopol"

[13] tendenz, 1/2000: "Interaktive Zukunft via Kabel erst für Wenige Realität"

The US / Netherlands based cable company **UPC**, which negotiates to buy the Deutsche Telekom cable network in Rheinlandpfalz/Saarland, also intends to offer digital packages. The set-top-box will probably be the Open TV based F.U.N. decoder.[14]

Bertelsmann Broadband Group (bbg) has announced to launch a field trial with interactive TV services in Berlin in fall 2000. In co-operation with Deutsche Telekom, about 1000 households will be equipped with a broadband access and a back-channel, using the cable network of Deutsche Telekom. Services shall include video on demand and e-commerce.[15]

Regulatory framework: Access to cable networks

To have access to cable networks, service providers need licences issued by the Landesmedienanstalten (the media regulation authorities of the Bundeslaender). Until recently, the Landesmedienanstalten (regional regulatory authorities) decided which programmes cable providers had to feed into their networks. The new Rundfunkstaatsvertrag which came into force on 1st April 2000 changed this situation. § 52 (Distribution of services) stipulates that

- cable network operators have to take care that capacities are available to carry (1) the programmes of the public services broadcasters including their packages and (2) the regional programmes and open channels licensed for that region
- technical capacities to carry these services must be equivalent to the capacities for other digital services
- the operators can **decide on their own** how to use capacities going beyond these "must carry" provisions (with some restrictions further specified).

The cable operator has to report to the Landesmedienanstalt each programme he feeds into his network at least two months in advance.

14 tendenz, 1/2000, "Ohne Kabel keine Chance"

15 ORF ON Futurezone, 15th August 2000 <http://futurezone.orf.at>

ADSL

Parallel to upgrading the cable network for interactivity, Deutsche Telekom has invested into ADSL as an alternative infrastructure for broadband access. The objective is to have 500,000 ADSL subscribers by the end of the year 2000[16] and that the service will be technically available in 220 local telephone networks with about 17 million households connected.[17]

ADSL allows capacities of up to 768 kbit/s in the downstream and up to 128 kbit/s in the upstream. The advantage compared to broadband cable TV networks is that practically all households are connected to the telephone network, i.e. the basic requirement for ADSL is already available.

DT states that ADSL and cable TV networks are basically separate markets and will develop parallel to each other. Only with regard to some applications, these infrastructures will be competitive with each other. In the first stage of development, ADSL will mainly be used for fast internet access.

In a trial in Hamburg, Bertelsmann Broadband Group uses ADSL to offer interactive services (e-commerce) and multimedia on demand services via ADSL technology. BBG co-operates with the telephone company Hansanet.

Situation of terrestrial digital television

Germany has set the path towards digital terrestrial television, but many questions remain unanswered. Representatives of public and private broadcasting stations, together with important market players such as Deutsche Telekom and politicians formed an expert group in 1997 called »Initiative Digitaler Rundfunk» (Digital Broadcasting Initiative), in order to discuss scenarios for the transition from analogue to digital terrestrial television in Germany.[18]

In the consortium debates, it became clear that the only possible way to switch from analogue to digital terrestrial TV would be a revolutionary and abrupt switch. This would follow a regional approach, i.e. performing abrupt switches in a sequence of defined areas, but not in the whole country at the same time. A long simulcasting phase with analogue and digital programmes being broadcast simultaneously would be too costly. This strategy is called "Inselstrategie" in Germany. In each of the "islands", three frequencies with a large reach will be selected and used digitally, i.e. for broadcasting at least twelve free-to-air television programmes (old and new ones). After a certain simulcasting phase, the analogue frequencies will be terminated. Then, the same procedure will follow in new islands. The transition to digital TV should be complete by the year 2010, on the condition that by that time 95% of all receiver equipment in German television households will be capable for receiving digital programming either via satellite, cable or digital terrestrial transmission.

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[16] iBusiness, 20th July 2000: "Excite schluckt Chello"

[17] tendenz, 1/2000: "Kabelnetze – Multimediaplattform der Zukunft?"

[18] The group was installed by the so-called Forum TV2000.

There is a debate in Germany whether it still makes sense to have a full coverage by terrestrial broadcasting, taking into account that less than 15% of households are still receiving TV programmes via terrestrial signal. These considerations will play an important role with regard to switching to DTT. The question will be if the advantages of the DVB-T standard (e.g. portability, mobile) can outweigh the fact that the relative importance of terrestrial broadcasting for basic TV reception decreases compared to cable and satellite. Portability is generally considered to be the most important reason for going digital.

Time frame for the switching from analogue to digital terrestrial television

2000	September: "Startszenario 2000" – report by Initiative Digitaler Rundfunk Start to set up the first digital terrestrial broadcasting stations. These stations are supposed to broadcast programmes to pave the way for DVB-T under market conditions. Termination of building new analogue terrestrial broadcasting networks. Existing networks will not be extended, except if necessary to prepare the switch to digital.
2003	Review and evaluation of these objectives in the context of the international development and the diffusion of equipment in households.
2010	Full digitisation of terrestrial TV. Termination of analogue terrestrial broadcasting on the condition that 95% of all households have got digital receivers.

In order to eliminate all technical problems prior to the operational start of digital terrestrial broadcasting, a number of trials were launched in Germany between 1997 and 1998. Mobile and portable reception have been important issues in most of these trials. The trials have primarily technical objectives rather than focusing on testing the acceptance of services.[19]

Most of the major trials have recently been finished or will soon be finished. Some final reports are already available. End of September 2000, the Initiative Digitaler Rundfunk will present the "Startszenario 2000" ("starting scenario 2000") a sort of white-paper summarising conclusions from the field trials and making suggestions for the launch of digital terrestrial television.[20]

[19] telephone interview with Mr. Schneeberger from the IRT (Institute for Broadcasting Technology) on June 11th, 1999.

[20] Information by BMT – Bayerische Medien Technik. Interview with Mr. Veit Olischläger, 17th August 2000

Overview: Major DVB-T trials in Germany[21]

Location of the pilot project	Project partners	Number of programmes	Time frame of the pilot project	No. of trans-mitters	Main objectives
Berlin/ Branden-burg	Deutsche Telekom, Regulatory Media Authority of Berlin-Brandenburg[22]	20 TV programmes	8/1997 – 12/2000	10	implementation of a DVB-T platform for Berlin, portable reception, technical tests
Bavaria	Bavarian Media Technology GmbH (BMT), Bavarian public service broadcasting station (BR), Deutsche Telekom, Institute for Broadcasting Technology (IRT), Rohde & Schwarz.	1 package with 4 programmes	6/1997 – 12/1999 (network will be continued in 2000)	3	implementation of an 8k Gleichwellennetz, portable indoor reception, technical tests Final report available at www.bmt-online.de
Northern Germany (Lower Saxony)	Landesmedienanstalten of Lower Saxony, Hamburg, Bremen; NDR, Radio Bremen, ZDF, Deutsche Telekom, Institute for Telecommunications of the Technical University of Braunschweig.	2 networks will transmit 6 TV programmes [23]	8/1998 – 12/2000	42	Stationary, mobile and indoor portable reception of DVB-T see: www.dvb-t-nord.de
Northrhine-Westphalia	Polytechnic University Wuppertal, IRT, WDR		12/1997 – 12/2000	3	VHF/UHF comparison at stationary, mobile and portable indoor reception
Cologne	Deutsche Telekom, RTL, SAT1, VOX and VIVA.[24]	1 package with 4 programmes	3/1998 – 6/2000 (may be continued)	1	mobile and portable indoor reception
Saxony	Deutsche Telekom and the Regulatory Media Authority of Saxony	2 packages	2/1997 – 3/2000	4	Cost-effective solution for the transmission of local and regional contents within a single frequency network, portable reception

[21] based on an overview in the Final Report of the Bavarian DVB-T field trial, cf. http://www.bmt-online.de/

[22] cf. www.mabb.de. The project was extended in September 1999, offering 20 TV programmes to the test households.

[23] On 20th July 1999, the three Landesmedienanstalten of Bremen, Hamburg and Lower Saxony granted licences for digital terrestrial TV (DVB-T) in Northern Germany in the framework of the DVB-T trial. The requests of TV broadcasters RTL, Sat1 and tm3 and of some radio broadcasters were positively answered. A total capacity of 14.75 MBit/s was available. After granting capacities to these broadcasters, 0.7 MBit/s remain available. This capacity will be used for data services.

[24] cf. www.lfr.de

Market development

Digital TV services

After the merger of DF1 and Premiere into Premiere World, the German digital TV market can be structured into four groups of service providers:

- The digital pay-TV service of **Premiere World**
- The digital cable service of **MediaVision**, which provides access to the free-to-air digital packages of the public broadcasters, to Premiere World (see chapter on co-operations below) and to a number of additional pay-TV services
- The digital free-to-air packages of the **public broadcasters** ARD and ZDF, which mainly consist of re-structured programmes and access to the programme of partner broadcasters
- The digital free-to-air packages of the German **commercial broadcasters** (RTL World, tm3 digital, VOX)

Private cable network operators are also planning to launch digital packages, but only PrimaCom (service available to 42,000 households) is already in the market. Due to the yet insignificant number of subscribers, these services are not described here in more detail.

Digital TV services available in Germany (June 2000)

Name of the service	Ownership (as of May 1999)	Date of launch	No. of subscribers
Pay-TV services			
Premiere World (digital)	Teleclub GmbH (KirchGroup): 70 %; Canal+ Beteiligungs- und Verwaltungs-Gesellschaft mbH (owned by Teleclub GmbH): 25 %; CLT/Ufa: 5 %	October 1999	1.5 million (June 2000)
MediaVision	Deutsche Telekom	September 1999	no figures available (confidential matter)
Free-to-air programmes and packages of public broadcasters			
ARD digital	ARD	August 1997	no data
ZDF.vision	ZDF	August 1997	no data

Free-to-air packages of commercial broadcasters			
RTL World	UFA Film & Fernsehen GmbH (CLT-UFA) (89 %), BW TV und Film Beteiligungs GmbH (11 %)	1999	no data
tm3 digital	News German Television GmbH (a 100 % subsidiary of News Corp.)	June 2000	no data
VOX (Reisekanal & Servicekanal)	RTL Television GmbH (49.9 %), UFA Film und Fernseh GmbH (49.8 %), DCTP (0.3 %)	(licensed in Sept. 1999)	no data

Subscriber development

In late 1999 and 2000, digital pay-TV has gained some momentum in Germany. The main driver was the launch of Premiere World in autumn. In a press release on 9th May 2000, Kirch Group said that "between the beginning of October 1999 and the end of March 2000, the number of digital customers increased from 900,000 to 1.42 million", a 58 % growth. The annual churn rate is about 14 % of annual subscriptions.[25] In the first three months after its launch on 1st October 1999, Premiere World attracted 320,000 new subscribers, and additional 120,000 subscribers in the first eight weeks of the year 2000.[26] Together with the subscribers of the former services Premiere Digital / Analogue and DF1, Premiere World had about 2.2 million subscribers in Germany by the end of June 2000. The target for 2000 has been set at 2.9 million subscribers.[27]

The figure of 2.2 mio. subscribers includes, however, about 700,000 subscribers of the analogue pay-TV service of Premiere who have not yet "upgraded" their subscription to Premiere digital. The analogue subscriptions are no longer sold to new customers since 1st August 2000. Markus Tellenbach, Speaker of the Board of Premiere World, says the plan is to convert all analogue subscriptions to digital ones by September 2001.[28]

In mid 2000, Premiere World is still not profitable. Experts estimate that the pay-TV service will need at least 4-5 million subscribers in order to refinance its huge investments for content rights, including the expenses for sports (e.g. football world championships 2002 and 2006).[29]

[25] press release (www.kirchgruppe.de)

[26] Presentation by Ferdinand Keyser, Managing Director of Premiere World, 21st March 2000, at the Handelsblatt Konferenz "Zukunftsforum Medien". Presentation can be downloaded at http://www.premiereworld.de (Presseservice)

[27] "Nach langer Verzögerung startet Kurch die 'Operation Internet'", Frankfurter Allgemeine Zeitung, 22nd July 2000

[28] Kabel und Satellit, 17th July 2000

[29] FAZ, 11th July 2000: "Wer auf das ZDF wartet, spart viel Geld"

Subscribers to digital pay-TV services in Germany (millions) [30]

Time (end of period)	**Premiere World (digital)**	**Premiere Digital**	**DF 1**	**Total**
12/1998	-	0.40	0.26	0.66
05/1999	-	0.47	0.35	0.82
09/1999 *	-	~ 0.50	~ 0,50	~ 1.00
12/1999	~ 1.20[31]	**	-	~ 1.20
03/2000	1.42	**	-	1.42
06/2000	1.50	**	-	1.50

* start of Premiere World (1st Oct. 1999)

** part of Premiere World since Oct. 1999

Market volume of digital TV

In terms of revenues, the German digital TV market has increased by 80-85 % in 1999. The main factors for growth were that Premiere subscribers migrated from the analogue to the digital service and the launch of Premiere World in October, which attracted a lot of subscribers in the first three months. It seems that – once the launch of the new service was announced in the public earlier in 1999 – many new customers waited with a subscription for the new service to start rather than subscribing to Premiere Digital prior to the launch of Premiere World.

The changes in the market makes estimates of the total market volume difficult. Detailed figures for sales revenues of Premiere Digital, DF 1 and Premiere World in 1999 are not available. Salzburg Research estimates the German digital TV market (1999) at about 290 million Euro.[32] This is about 10.5 % of the total pay-TV market[33] and 2.7% of the total German TV market. The TV market share has increased from 0.4 % in 1997 and 1.5 % in 1998.

The digital (pay-)TV market is likely to further increase as . . .

- . . . the analogue subscriber base of Premiere moves over to the digital package
- . . . new channels and packages are launched by cable network operators
- . . . new channels become available via satellite.

The digital pay-TV services of Premiere World is exclusively financed by subscription fees. There are no advertising revenues. Comparing the German pay-TV market to the free-to-air

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[30] data provided by DF1and Premiere, or based on magazine reports

[31] cf. FAZ, 7th Dec. 2000: "Noch kein Durchbruch für Abo-Fernsehen"

[32] The calculation is based on the average number of subscribers during 1999, the subscription fees for the standard package and an estimate for additional revenues through pay-per-view (based on information available about the percentage of subscribers using PPV services). For Premiere, figures for the annual revenue are available, but these include Germany and Austria, and both the digital and the analogue package. Figures are available for licence fee revenues of the public broadcasters and advertising revenues. Revenues of cable network operators have been calculated based on the number of subscribers and average monthly fees.

[33] including basic subscription to cable networks

TV markets therefore basically means comparing subscription revenues to advertising revenues (plus public service broadcasting fees).

German TV market: pay-TV revenues as part of total TV (estimate)

	Total TV market	**Total pay-TV market** *	**Premium analogue pay-TV** (without basic cable subscription)	**Digital pay-TV market**		
	M Euro	M Euro	M Euro	M Euro	% of total market	% of total pay-TV *
1996	8,757	1,994	324	3	0.0	0.1
1997	9,657	2,406	379	41	0.4	1.7
1998	10,037	2,564	359	155	1.5	6.1
1999	10,648	2,750	288	290	2.7	10.5

* including fees cable households are paying for basic subscription (either to Deutsche Telekom or to a private cable network operator). Optional services (Premiere analogue) account for only a small percentage of the total revenues from pay-TV

Barriers to competition and market development

The d-box – a market barrier?

The dominant position of the d-box in the decoder market, together with its technical specifications, is an issue of ongoing debate. Critics say d-box is a barrier to competition. The position of the d-box has been further strengthened by the decision of Deutsche Telekom to use the d-box as the standard receiver for the services provided by MediaVision. In defence of its activities, Kirch Group argues that the API source code for the d-box was made available by BetaResearch in January 1999.

BetaResearch's licensing practices regarding the CA specifications of the Irdeto system are also being questioned. Although BetaResearch says it is willing to license the CA specifications allowing other manufactures to simulcrypt, hardware suppliers (e.g. Technisat) have complained that the licensing practices were unacceptable (licence too expensive, endless negotiations).[34] In mid 2000, it is still not possible to subscribe to Premiere World with using another decoder than the d-box.

It remains to be seen if the MHP standard can help to overcome this problem. Kirch Group stresses the fact that the d-box will be fully MHP compatible, in line with remedies agreed in the framework of the BskyB/Kirch case.[35]:

- The Kirch company will offer to all interested parties on a fair, reasonable and non-discriminatory basis, technical services enabling the interested third parties' digitally-transmitted services;
- The Kirch company will keep separate financial accounts regarding its activities as a provider of technical services;
- The Kirch company will use all reasonable endeavours to ensure that the implementation of the MHP API will be operational within 9 months after tha adoption and publication by

[34] It would be possible for a regulator to insist that Kirch simulcrypt with another platform, on the model of the BIB case where Sky has to hold itself open for any other broadcaster to simulcrypt. The TV Standards Directive of the European Parliament and of the Council (Directive 95/47/EC) allows proprietary conditional access systems, but requires that these systems be made available on "fair, reasonable and non-discriminatory terms" to third-party manufacturers.

[35] JV37, see: http://europa.eu.int/comm/competition/mergers/cases/index/by_nr_jv_0.html#jv_37

ETSI of the technical specifications;
- The Kirch company will offer licenses for the d-box on a reasonable and non-discriminatory basis.

Deutsche Telekom – a powerful gatekeeper in the cable network

Telekom has a dominant position in the cable market and is therefore a most important "gatekeeper" regarding access to digital services. Access to cable networks, however, is an important success factor for any TV service in Germany. Regulatory authorities will have to deal with the following issues in order to establish fair conditions for market access:

- The decision of Deutsche Telekom to impose **d-box** as the only decoder enabling the reception of digital services via its cable network is questionable. Free-to-air decoders with a common interface cannot be used by cable subscribers, as the F.U.N. platform criticises.[36]
- Decision on **fees** Deutsche Telekom may impose for granting access to its cable networks: Telekom has announced to launch a test case against ORB, the regional ARD broadcaster of Brandenburg. Telekom argues that public broadcasters should also be obliged to pay a fee for having their programmes fed into the cable network (see 1.3.4 "regulatory framework and issues").
- Decision if Telekom may demand **commissions** from e-commerce services: MSG, the cable subsidiary of Telekom, has presented model contracts for future service providers who wish to have their programmes fed into the cable network, demanding 30 % of the net revenues resulting from such services (see 1.3.3. "vertical integration").

[36] F.U.N. argues: "Deutsche Telekom blocks market access for private, independent digital service providers and even for the multimedia services of public broadcasters. Telekom also blocks a free decoder market." (http://www.fun-tv.de/index2.html, 10th August 2000)

1.2.Details of services

Number and type of services

In mid 2000, there were close to 90 digital free-to-air and pay-TV channels in German language receivable via satellite (ASTRA and/or EUTELSAT). This is an increase of about 25 % compared to June 1999 (70 channels in total). Together with the cable services offered by MediaVision, more than 90 digital channels in German language are available in Germany either via satellite or cable. Numerous additional free-to-air channels in other languages than German can also be received in Germany via satellite (ASTRA, EUTELSAT), in total about 150 programmes.

Digital TV channels in German language available via ASTRA and EUTELSAT (July 2000)[37]

Type of channel	**No. of channels / pay-mode**		
	Total	**pay-TV**	**free-to-air**
Movies & entertainment	28	26	2
Mixed programmes by public broadcasters	12	-	12
Mixed programmes by commercial broadcasters	11	-	11
Business, finance & news	7	1	6
Sports	7	5	2
Children & youth programmes	4	3	1
Erotic programmes	4	4	
Education & documentaries	3	2	1
Music & culture	3	1	2
Various special interest programmes (e.g. weather, fishing, home-shopping)	9	1	8
TOTAL	**88**	**43**	**45**

[37] count is based on a list of digital channels distributed by ASTRA, cf. <www.astra.de>, and EUTELSAT <www.eutelsat.de>.

Details of the DTV offers

The following chapter describes the digital TV services currently available in Germany, focusing on the type of service, the packaging of channels, the prices and the ownership of channels. It is structured into six sections, according to the major service providers:

- Premiere World
- MediaVision
- Digital services of ARD
- ZDF.vision
- Digital services of the commercial free-to-air broadcasters
- Other channels: applications for single digital channels

Premiere World

After the take-over of Premiere by Kirch Group, Premiere World was launched in October 1999. Premiere World states that its service "stands for exclusivity and diversity", offering

- 14,000 hours of programme per month
- 30 first-time broadcasts of feature movies in German television per month
- more than 1000 sports events live (per year)
- exclusive rights for numerous sports events and long-term output deals with US majors (e.g. live broadcasts of German "Bundesliga", the premiere football league).[38]

In the marketing strategy of Premiere World for 2000, German and international football plays a dominant role. There are live broadcasts of all (!) 'Bundesliga' matches (German premiere league) of the season 2000/2001 available via the sports package or by pay-per-view. Premiere World hopes that football will be the premium content that brings the final breakthrough for pay-TV in Germany. In contrast to earlier strategies of former Premiere Digital, the movie and sports offers have been split into separate packages.

- **Movie channels** are offered in three packages and in pay-per-view channels. To use the pay-per-view offers, a subscription of the basic package "Movie World" is necessary. The "super package" includes all four packages (Movie, Family, Gala, Sports).
- **Sports** fans can subscribe to a sort of "all-inclusive" package for a price of 827 DM (415 Euro) per year. This package includes – in addition to the super package – live broadcasts of all football matches of the "Bundesliga". Single matches can be ordered by pay-per-view for a price of 6 Euro / match. A subscription to all 9 matches of one round ("Spieltagsticket") costs 12.5 Euro. The add-on "Sports World – KICK" for additional 10 DM / month offers a vast amount of live football, including the European Champions League.

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[38] Presentation by Ferdinand Keyser, Managing Director of Premiere World, 21st March 2000, at the Handelsblatt Konferenz "Zukunftsforum Medien". Presentation can be downloaded at http://www.premiereworld.de (Presseservice)

- Three channels offer **pay-per-view** programmes, structured into sports, recent movies, and erotics.

The four movie and sports packages can be subscribed in different combinations. Most customers include the "Movie World" package as a sort of basic package in their subscription.

Pay-TV packages offered by Premiere World (July 2000)

Package	Description	Price (Euro)
	Pay-TV Packages	
Movie World	contains **8 movie programmes**: Premiere, Star Kino, Cine Action, Cine Comedy, SCI Fantasy, Romantic Movies, 13th Street, Studio Universal	40 DM (20 Euro) (if selected as the only package)
Sports World	vast variety of **sports programmes**, including football (3 matches per week live), Formular One, boxing, golf, US sports	only in combination with other package: 45-55 DM (22.5 – 27.5 Euro), depending on combination
Family World	contains **8 family entertainment programmes**: Junior, K-Toon, Disney Channel, Sunset, Comedy, Krimi & Co, Discovery Channel, Planet	20 DM (10 Euro) (if selected as the only package)
Gala World	contains **6 programmes**: Goldstar TV (popular music), Filmpalast (classic movies), Heimatkanal, Krimi & Co, Discovery Channel, Music Choice	20 DM (10 Euro) (if selected as the only package)
	Pay-TV: Single channels	
Extras	3 programmes are offered for single programme subscription (or in combination with Premiere World packages: • classica: classic music) • seasons (hunting and fishing) • blue channel (erotic)	classica: DM 10 (DM 20) seasons: DM 10 (DM 15) blue channel: DM 14 (DM 20) in brackets: if subscribed as a single channel and not in combination with a Premiere World package
	Pay-per-view	
Superdom	pay-per-view channel for German football (Bundesliga / premiere league).	season ticket: 349 DM (175 Euro); weekend ticket (9 matches): 25 DM (12.5 Euro) single match: 12 DM (6 Euro)
Cinedome	pay-per-view channel for movies (access only via Movie World)	6 DM (3 Euro) per movie
Blue Movie	pay-per-view channel for erotic movies (Access only via Movie World)	6 DM (3 Euro) per movie

Combinations of packages offered for subscription by Premiere World

Movie World	Sports World	Family World	Gala World	Price (Euro)
x	x	x	x	27.5
x	x	x		25
x	x		x	25
x		x	x	25
x	x			22.5
x		x		22.5
x			x	22.5
		x	x	15
x				20
		x		10
			x	10

The following channels of Premiere World have recently been licensed by German broadcasting authorities for digital distribution via satellite (ASTRA):

Channel(s)	Date of licensing and authority	Description	Ownership
Fox Kids	20th July 2000, BLM[39] (launch expected for Nov. 2000)	entertainment channel for 3-13 year olds in German language	100 % owned by Fox Kids GmbH, a subsidiary of Fox Kids Europe Channels B.V., which is owned by Haim Saban Group 37.5 %, Fox Broadcasting Company (37.5 % - a News Corp. company), Allen & Co. (0.7 %) and mixed owners (24.3 %).
Animal Planet, Reisekanal, Gesundheits-kanal, Wissen-schaftskanal	20th July 2000, BLM	special interest channels (animals, travel, health / live-style, science)	request was filed by Discovery Germany Beteiligungs GmbH, which is owned Liberty Media Corp. (49.2 %), Cox Communications 24.6 %), Advance / New House Comm. (24.6 %), John F. Hendriks (1.6 %)
TS Technology & Science Channel	20th July 2000, BLM	special interest channel	request was filed by H5B5 Digital GmbH, subsidiary of the H5B5 Media AG, owned by Jan Herrmann (27,04 %), Hendrik Hey (27,04 %), Andrea Herrmann (4,90 %), Roswitha Ernst-Hey (4,90 %), AuditJurTax GmbH (2,12 %), public shares (34,00 %)

[39] Bayerische Landeszentrale für neue Medien (Bavarian regulatory authority)

GoldStar TV	10th February 2000, BLM	music channel, mainly popular music	Multi-Channel GmbH (50 %), Gottfried Zmeck (50 %); Multi-Channel GmbH is owned by Kirch Group (100 %)
Classica	14th October 1999, BLM	classic music	request was filed by Unitel Film- und Fernseh-Produktions-gesellschaft mbH & Co., a 100 % subsidiary of KirchBeteiligungs GmbH & Co.KG
K-toon, Junior	14th October 1999, BLM	youth programmes (e.g. cartoon series)	request was filed by Junior TV GmbH & Co. KG, owned by EM.TV & Merchandising AG (50 %) and KirchMedia GmbH (50 %)
Disney Channel	22nd July 1999, BLM	family channel, mainly for children between 3-13 years	request was filed by Buena Vista (Germany) GmbH, which is 100 % owned by Disney Store (Germany) GmbH

Premiere Analogue

There are still close to 700,000 subscribers of the analogue pay-TV service of Premiere. Since Premiere World has been launched in October 1999, the service provider tries to motivate the subscribers of the analogue service to migrate towards the digital service. The former web site of Premiere <http://www.premiere.de> has been reduced to one page that directly points towards Premiere World, saying: "What has happened with www.premiere.de? Experience a piece of television history! DF 1 and Premiere have become Premiere World on 1st October 1999. [...] An information for subscribers of Premiere Digital: Please start an automatic channel search on your d-box in order to experience the new multitude of programmes. For subscribers of Premiere Analogue, nothing changes."

The analogue pay-TV service of Premiere is being continued, but no new subscriptions are possible since August 2000. Information for subscribers about the programme of Premiere analogue is available on the web site of Premiere digital <http://www.premiereworld.de/>. Technically, Premiere analogue has been integrated as one of the various services offered by Premiere World. The plan is to have all subscribers "digitised" by September 2001.

Audience behaviour

Premiere World does not provide much information about the user behaviour of subscribers, the popularity of the various packages or about the demographic structure of the audience. The company states that it does not have that information itself at this point – empirical tests of the popularity of individual channels within the packages are only starting now.[40] However, most of this information will probably remain confidential matter. Since Premiere

[40] questionnaire answered by Premiere World, 10th August 2000

World is not advertising financed, it is in a position to withhold this information. It does not need to "sell" their audience to advertisers, i.e. provide figures about the reach of different channels. The company states that

- more than 90 % of the customers have subscribed to the "super package" comprising 24 programmes, i.e. the four basic packages.
- 95 % of the subscribers include the Family World package in their choice of packages
- the Gala World programme package, which was launched in March 2000, "exceeds expectation and has attracted already 175,000 viewers"[41]
- the "Season Ticket" (live broadcasts of all 306 Bundesliga matches) seems to become a big success. Shortly before the start of the new football season (2000/2001) already 110,000 tickets have been sold (349 DM each).[42]

The costs, however, for marketing Premiere World continue to be enormous. In November 1999, Kirch obtained a loan of 3 billion DM (1.5 billion Euro) to finance these efforts. Creditors are the Bank Chase Manhatten (1.5 billion Euro), and a consortium of German banks (the same amount). Experts estimate that total investment of Kirch Group into its pay-TV ventures before reaching profitability will be about 10 billion DM (5 billion Euro).[43]

MediaVision

On 1st February 1999, Deutsche Telekom founded Media Services GmbH (MSG) as a 100% subsidiary. The business of MSG was defined as to provide a platform and to market services for the digital cable network (e.g. packaging of programmes, marketing, subscriber management).

On 1st July 2000, MSG was newly structured. MSG will continue to be a platform for digital TV in broadband cable networks, but the content brand "**MediaVision**" was separated from MSG and re-entered into the Deutsche Telekom.

MediaVision <http://www.mediavision.de> offers five digital packages (including two pay TV packages with 4 pay-channels) and also distributes Premiere World on the cable network of Deutsche Telekom.To receive any of the services offered, users need a d-box as a decoder, which is offered by MSG for rent as well as for sale. The price of the d-box depends on the package the customer subscribes to:

- The monthly rate for rental of a d-box is 15 DM / 7.5 Euro (only available in combination with a pay-TV subscription).
- The d-box costs between 550 DM / 275 Euro (in combination with a pay-TV subscription) and 800 DM / 400 Euro (for reception of the free digital services).

[41] press release by Premiere World, 9th May 2000

[42] tv media, 33/00, 9th August 2000: "TV Revolution"

[43] FAZ, 26th November 1999

Digital packages offered by MediaVision (July 2000)

Title	Description	Price (Euro)
	Free Packages	
VisionBasic	package includes the digital packages of ARD (including the regional programmes) and ZDF.vision, the digital radio programmes of the public broadcasters and VisionProgramm-Manager (an EPG)	free
VisionGlobe	6 foreign language channels (2 Turkish, Polish, Greek, Chinese and Portuguese)	no subscription fee – only a one time (registration) fee of 20 DM (10 Euro)
	Pay-TV Packages	
VisionSelect	diverse programme consisting of 10 channels: Einstein Kanal, Fashion TV, Bet on Jazz, Bloomberg TV, Landscape, Extreme Sports Channel, Comedy, Krimi & Co, Sunset (TV series), Goldstar TV (popular music)	DM 10 - 25 (Euro 5 - 12.5), depending on the number of channels selected
VisionSpecial	2 pay-TV-channels: • Zee TV: programme in Hindi, Urdu and Punjabi with programmes from India and Pakistan • NTV International: information and entertainment channel in Russian language	Zee TV: 36 DM (18 Euro) + one time fee of 36 DM NTV: 30 DM (15 Euro) + one time fee of 30 DM
VisionProfi	2 pay-TV channels: • Fashion TV (music+fashion, non-stop, for stores) • Bloomberg TV (financial news)	Bloomberg TV: 50 DM (25 Euro) Fashion TV: 50-100 DM (25-50 Euro), depending on size of store
Premiere World	Premiere World super package (Movie W., Sports World, Family World, Gala World)	55 DM (27.5 Euro) + 30 DM one time fee

Digital services of ARD

ARD launched its digital bouquet as a trial at IFA 1997. The package makes the ARD programmes of the analogue service digitally available and adds three programme channels, an Electronic Programme Guide and the Online Kanal. None of this channels requires a subscription. They are all available for free and only require a digital set-top-box. ARD recommends the Open TV system. The package is delivered via satellite on ASTRA.

The ARD Online Kanal was originally established to provide additional background stories to the daily news-feed of the analogue programme. The Online Kanal offers news, weather and a selection of pages from the ARD Online site on the WWW. The overall budget of ARD to set up these digital television services in 1998 was about DM 12 million (6 million Euro).

Digital services offered by ARD digital

Channel type	Description
EPG	Electronic Programme Guide of ARD
ARD Online Channel	channel designed for interactive and multimedia services; (can only be received via satellite and requires the Open TV system – does not run on the d-box)
EinsMuXx	mixed programme (mainly news, talkshows, documentaries), composed of various programmes of ARD (Das Erste + regional programmes)
EinsFestival	mixed programme (mainly news, soaps, crime series), composed of various programmes of ARD (Das Erste + regional programmes)
EinsExtra	mainly news broadcasts of ARD (and repeats)
Das Erste	the standard TV programme of ARD
B1 Berlin, Bayerisches Fernsehen, hessen fernsehen, MDR, N3, ORB, WDR, SR, SWR	the standard regional TV programmes of the ARD members
3sat	standard programme of free-to-air broadcaster 3sat (co-operation of German, Austrian and Swiss public broadcasters)
ARTE	standard programme of ARTE (programme for Germany)
Phoenix	documentary and news channel
KI.KA	children's channel ("Kinderkanal")
BR-alpha	specialist educational channel provided by the Bavarian Broadcasting corporation (member of the ARD group)

ZDF.vision

ZDF.vision is the digital package of ZDF delivered through ASTRA 1G, was introduced to the public at IFA (Internationale Funkausstellung) 1997. The package currently includes

- an Electronic Programme Guide
- 11 TV programmes
- 3 radio programmes
- ZDF digitext, a data service (digital video text)

New services added in the second half of 1999 and in 2000 are ZDF.doku (transmitted by ASTRA since 31st March 2000), the "Theaterkanal" and the Digitext (launched on 1st April 2000.

The package of ZDF.vision includes "partner programmes" (the programmes broadcasters with whom ZDF co-operates): 3sat, arte, KiKa and Phoenix (both by ARD), DeutschlandRadio Berlin, Deutschlandfunk (radio), Ö1 (radio programme by ORF). These programmes are simulcast in analogue and digital formats by satellite.

ZDF.vision also makes available three "guest senders" (ORF2/TW1, EuroNews, Eurosport). All programmes of ZDF.vision can be received for free via satellite, based on availability of a digital set-top-box.

These services are part of the multiplexing channel reserved for ZDF in the cable network and do not require any new transmission capacities.

Digital services offered by ZDF.vision

Channel / services	Description
EPG	Electronic Programme Guide by ZDF
ZDF.info	information and service channel, reusing selected programmes of **ZDF** and **3sat** (topics covered: leisure, economy, environment, health)
ZDF.doku	documentaries and reports, mainly taken from the ZDF programme and organised by specific topics (daily from 14:00 – 9:00 next day), weekly updated.
ZDF Theaterkanal	theatre programme showing drama and background information about authors in two daily blocks (9:00 – 14:00, 19:00 - ?)
ZDF digitext	as a 'digital extension' to the ZDF.text (the analogue videotext), the service offers multimedia enriched information

Digital services of the commercial free-to-air programmes

Digital versions of the following TV programmes (without any additional services compared to the analogue free-to-air programmes) are also delivered via digital satellite:

- via **ASTRA**: Sat.1, RTL Television, Pro Sieben, Kabel 1, RTL 2, VOX, Super RTL, DSF, MTV, Bloomberg TV Dtl., Pro Sieben Schweiz, Pro Sieben Österreich, Kabel 1 Schweiz, Kabel 1 Österreich, tm.3, n-tv, QVC
- via **Eutelsat** 13 Grad Ost: Onyx-TV, RTL Television, RTL 2 Österreich, Sat.1 Schweiz, Sat.1 Österreich, GIGA-TV, QVC

Overview: Digital packages of German commercial broadcasters[44]

Programme / package	Channels	Distribution
RTL World	RTL Television, RTL II, Super RTL (simulcast), four special interest channels (soaps, news, action, "RTL-Highlights"), an EPG	via satellite only (ASTRA), non-encrypted
tm3 digital[45]	6 thematic channels ("Traumgarten", "Schönes Ambiente", "Gesundes Genießen", "Typgerechte Mode", "Sport", "TM3 Kinospaß"), mainly focusing on life-style and fashion.	via satellite only (ASTRA), non-encrypted, since June 2000
VOX	two thematic channels: VOX Reisekanal (travel), VOX Servicekanal (advice, various services)	via satellite (ASTRA)

RTL has announced to upgrade its digital services. It is planned to enable e-mail communication as a part of the RTL world services during 2001. To develop this service, RTL Newmedia, a 100 % subsidiary, has bought 17.5 % of Scip GmbH which offers solutions for interactive technologies.[46]

New channels: Applications for single digital channels

There are also digital channels licensed in Germany which are not part of the packages described above. In 1998 and 1999, a number of service providers have applied for licences to one of the Landesmedienanstalten, mainly for distributing a channel via digital satellite broadcasting. Not all of these programmes are yet operational.

Digital TV packages / channels licensed in Germany (other than those that are part of the packages of Premiere, MediaVision, ARD or ZDF)

Name of Channel	Time and authority issuing licence	Description of programme	Owner
AB Sat	24-09-1999, LfR NRW	7 thematic channels (animals, history, travel, hunting, music, science, automobile / boating)	Claude Berda (25.1 %), JLC Holding (26.9 %), Dagobert B.V. (27.6 %), board members (20.4 %)
Asia TV	30-07-1998, LfK	programme for Asian minority in Germany, (not yet operational)	Marina Doll

[44] source: Programmliste 2000 by KEK (list of German TV programmes, published annually by KEK (Kommission zu Ermittlung der Konzentration im Medienbereich), published on 3rd August 2000

[45] tm3 was granted a licence for a digital package by BLM (Bavarian regulatory authority) on 16th December 1999.

[46] Süddeutsche Zeitung, 1st August 2000: "Einkaufen in der Glotze"

Cult Channel	?	German movies (not yet operational)	CNI – Creative Networks International
DCTP[47]	LfR NRW	mainly information and cultural programmes	Prof. Alexander Kluge (50 %), Dentsu Inc. (37.5 %), Spiegel Verlag Rudolf Augstein GmbH (12.5 %)
GSN – Game Show Network	24-09-1999, LfR NRW	entertainment and game shows	Beteiligungsgesellschaft Sony Entertainment mbH
Kanal D	14-12-1999, LPR Hessen	Turkish programme	Dogan Media Group
Kult TV	application to MABB	cultural programme, not yet operational, probably marketed by MediaVision	DMB Musica Film- und Videoproduktion GmbH (75 %), Dakta-Film Internationale Poly-gramme GmbH (25 %)
Onyx Music TV	24-09-1999, LfR NRW	five 24 hours music channels	Capital Media (UK) Ltd.
Playboy TV	01-03-1999, MABB	erotic channel, not yet operational	Playboy TV International (USA)
SET – Sony Entertainment TV	24-09-1999, LfR NRW	series, movies, documentaries	Beteiligungsgesellschaft Sony Entertainment mbH

@TV – project cancelled

Based on the former (1998) plans for "Arena Vision", a new digital TV bouquet called **@TV** was planned to start in early 2000.[48] The project was initiated by Michael Oplesch, the former managing director of MTV Germany. In spring 1999, @TV applied to the Landesmedienanstalt of Hamburg (HAM) for a licence for 10 digital pay TV programmes together with 14 pay-per-view channels. The programme was intended to be marketed by MediaVision. However, the plans could not be realised. Already in August 1999, the shareholders of @TV were reported to be involved in disputes. In a press statement, the company said it could not reach its goals within the given budget.[49]

[47] DCTP broadcasts programmes as "3rd party" on RTL, Sat1 and VOX. In 1999, it has applied for a full-time digital channel to LfR North-Rhine Westfalia.

[48] interview with @TV on June 15th, 1999.

[49] Die Welt, 4th August 1999: "Oplesch's @TV vor dem Aus?"

1.3. Operators and market structure

Evolution of market organisation and structure

The German TV market was reshaped during the period from July 1999 to June 2000. Strategic alliances, co-operations, buyouts and important deals regarding licence rights for content have caused a deep impact on the television market in general and on the digital TV market in particular. Summing up, the situation in mid 2000 can be characterised as follows:

- In the **digital pay TV** market, Kirch Group and Rupert have built a strong alliance. The positioned of Kirch Group is further strengthened by a co-operation with Deutsche Telekom in marketing pay-TV service Premiere World in the cable network of Telekom via "MediaVision".
- In the **free-TV-market**, the two big players have organised their channels as programme 'families': The RTL 'family' (RTL, RTL2, SuperRTL, and Vox), dominated by Bertelsmann, competes with Kirch's programme 'family' (ProSieben, Sat1, Kabel 1, N24, DSF). This is the result of a deal between ProSieben Media AG and Sat 1 (for details see below). In sum, these TV companies have an audience market share of more than 50 % and skim off about 85 % of the total German TV advertising market. In 1999, the Kirch programmes generated more advertising revenues than the RTL group (Kirch family: 2 billion Euro; RTL family: 1.7 billion Euro), but the RTL group generated slightly higher profits (both groups about 200 million Euro).
- The battle for **licence rights** for premium content, especially in sports, continues. Kirch group has renewed its contract for German Football Bundesliga and bought the rights for the World Championships 2002 and 2006.
- Deutsche Telekom sells stakes in its regional **cable TV** divisions. Parts of three regional networks have been sold in the first half of 2000. The new network owners intend to upgrade the networks in order to launch interactive services.

Important deals and events in the German free-TV and content rights sectors

Date	Programme	Event / Deal
January 2000	new programme: N24	On 24th January 2000, the news channel N24 was launched. N24 is part of the ProSieben Sat1 programme family. N24 is broadcast non-encrypted via ASTRA 1D and fed into some cable networks, the total technical reach is about 31 % of all TV households. N24 is not yet available digitally.[50]
April 2000	free-TV: tm3	Rupert Murdoch's News Corp. has agreed to buy out partner Herbert Kloiner's (Tele München GmbH) 34 % stake in TM3 for 350 million DM. News Corp. had already bought 66% of the shares in December 1998.[51]

[50] INFOSAT, 8th August 2000, p. 28: "N24 – ein halbes Jahr nach dem Start"

[51] screendigest, May 2000, 133

May 2000	tm3 sells rights for Champions League	TM3 sells the rights for the European Football Champions League (season 2000/2001) to RTL and Premiere World. tm3 had bought the rights for four years for a price of 850 million DM (425 mio. Euro).[52] The broadcaster is reported to have made a big loss with the Champions League in the first year (1999/2000). Kirch Group pays 3 billion DM to renew its exclusive contract for German Football Bundesliga TV rights for four more years. Kirch will broadcast games on pay TV platform Premiere World, with highlights on free TV (Sat 1).[53]
June 2000	Pro 7 & Sat1	Kirch Group's ProSieben Media AG (controlling the commercial programmes Pro 7, Kabel 1 and N24) merges with Sat 1 into the "ProSieben Sat 1 Media AG".
July 2000	Sat1 / ZDF: German football	Sat1 will have to pay about 190 million DM for the broadcasting rights of German football on "ran", the Saturday evening football show (short reports of the rounds' matches, but not the live broadcasts) to KirchGroup. This is 30 million DM more than until now, although the rights have been limited: The "match of the week" is not included – the ZDF has negotiated a deal with KirchGroup for the right to show a summary of the "match of the round" after the live broadcast on Premiere.

Concentration in the pay-TV market: Criticism by ARD on co-operation between Kirch Group and Rupert Murdoch – complaint to European Court of Justice

Premiere World is currently the only digital pay-TV service provider in Germany except MediaVision by Deutsche Telekom. Since MediaVision markets Premiere in the cable network of DT, however, it can be considered as a partner rather than a competitor. Consequently, concentration in the German pay-TV market is very high, if not close to monopoly.

Referring to the current level of concentration, ARD has criticised the strategic alliance between Kirch Group and Murdoch and announced to issue a complaint at the European Court of Justice against the two media enterprises. ARD argues that the alliance hinders competition in the digital TV market and tries to establish a monopoly. The conditions imposed on the players by the European Commission for allowing the alliance are not effective enough, says ARD. ARD therefore decided to launch a complaint at the European Court of Justice against the European Union's decision of March 2000 to allow the alliance. ARD wants to effect that the alliance will be forbidden in retrospect or that additional conditions will be imposed on the alliance. ARD argues that Kirch Group's d-box would not enable digital services by other providers in an acceptable way. Also, Kirch Group would not allow the reception of Premiere with other boxes than d-box.[54]

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[52] FAZ, 28th April 2000

[53] screendigest, May 2000, 131

[54] cf. Süddeutsche Zeitung, 10th June 2000: "ARD wendet sich an Europa-Richter"

The new structure of Kirch Group

After four years of digital pay-TV in Germany, Kirch Group has emerged as the dominant player in that business. It is a history of intense competition on the one hand and a series of attempted strategic alliances between the major players on the other hand. The merger of Premiere and DF1 (1999) has a record dating back to earlier attempts to unite the digital ventures of Bertelsmann and Kirch Group in 1998. The most important developments in the period of this report (June 1999 – June 2000) were the deal between Kirch Group and Rupert Murdoch's BSkyB and the restructuring of Kirch Group.

History of Kirch Group's strategic moves in the German digital TV market since 1998

1998	• On May 27th, 1998 the EC cartel office had decided unanimously to forbid the request of Kirch Group and Bertelsmann to unite Premiere Digital and DF1, and jointly run the digital service under the name Premiere Digital. Simultaneously, the cartel office refused to give consent to the restructuring of Beta Research's ownership, the hardware developing company that built the d-box. The European Commission denied the request of Kirch, Bertelsmann and Deutsche Telekom to form an alliance by each holding 1/3 of the shares in Beta Research. • Shortly after the EC decision, Bertelsmann and Kirch Group renewed their plans to co-operate in a common digital television initiative. The two companies intended to each take over 50% ownership in Premiere Media GmbH by buying shares from the third shareholder, the French commercial broadcaster CANAL+. The cartel office in Berlin objected to the application on October 6th, 1998 with the argument that the applicants would not only control the pay-TV but also the free-TV market, especially with regard to ownership of content rights.
1999	• In January 1999, Kirch Group established three holdings: *Kirch Media KGaA* (film- and TV-productions, trades with licenses and free-TV-activities), *Kirch Pay-TV KGaA* (pay-TV-activities) and *Taurus Beteiligungs GmbH & Co KG* (involvement of the group in other companies). All three holdings were organised around the new foundation of Kirch. *Kirch Media KGaA* represents the most lucrative of the three holdings.[55] • In February 1999, the Bertelsmann subsidiary CLT/Ufa sold its 37.5% share of Premiere (except for a rest of 5%) under the condition to carry on its delivery of movies and sports events to Premiere. In March 1999, Kirch Group bought Bertelsmann's share (except for the 5%), after it had already bought the 37.5% share of Canal Plus. Kirch Group owns 95% of Premiere since. Kirch Group paid about 800 million Euro to CLT-UFA for the shares

[55] Frankfurter Allgemeine Zeitung, January 5th, 1999

	of Premiere. • In March 1999, Silvio Berlusconi and the Arabian sheikh Al Waleed each bought 3.19% of Kirch Media for about 380 million Euro (together). In addition, Berlusconi purchased 15 % of Sat1 for 190 million Euro.[56] • Immediately after the transaction, Kirch declared his intention to merge Premiere and DF1 in September 1999 and to start a common digital platform. The German cartel office agreed to Kirch Group's take-over of Premiere in April 1999.
2000	• In June 2000, Kirch Group consolidated its family of free-to-air TV channels into a single holding company. In a complex deal, the ProSieben Media AG (Pro 7, Kabel 1, N24) merged with Sat 1 into the "ProSieben Sat 1 Media AG". With a combined turnover of 27.5 billion Euro (1999), the new holding is the number one in the German TV market. The stock market capitalisation of ProSieben Sat 1 Media AG is estimated at about 6 billion Euro. Springer Verlag will initially maintain an 11.48 % stake in exchange of its former 41 % stake in Sat 1. The agreement is that Springer can sell at any time, or, otherwise, Kirch Media AG can acquire Springer's share any time.[57] The Board of the new unit will have nine members who should be nominated by August 2000. Rewe, which held 41.6 % of ProSieben, will instead take a 6 % stake in KirchMedia. After the deal, Kirch Media's shareholding is Kirch Group (76.25 %), Thomas Kirch (6.87 %), Rewe (6.0 %), Capital Research Fund (3.08 %) and Lehman Bros, Fininvest, Kingdom Holding (2.6 % each). • Within Kirch Media AG, a new sports unit ("Kirch Sport") was created to consolidate its sports marketing assets into a single holding company. Kirch Sport includes the rights trading companies ISPR (50 %, Germany based), Prisma (85 %, Switzerland) and CWL (95 %, UK). Prisma holds the German rights for the football World Championships of 2002 and 2006. The free-to-air sports channel DSF, which is also owned by Kirch Media AG, has not been included into this newly founded sports unit. A reason may be that the new unit should not be burdened by old losses of DSF, which is still not profitable.

The next strategic move of the Group seems to be to extend its services to the internet. Kirch New Media AG has announced to plan investments of 750 million DM (385 million Euro) within the next three years for creating online services. About 75 % of this budget (500 million DM) is intended for advertising the new services, mainly on TV channels belonging to Kirch Group. The working title of this online venture is "**Maxdome**". Kirch New Media says it will offer internet users animated contents on topics such as movies, music, magazines, sports and news. Games and special areas for kids and youths will also be created. These contents may also be licensed or sold to other providers. With this move, Kirch Group plans to extend the areas of the digital value chain covered by the group into the online sector. The online service is planned to be launched in early 2001.[58]

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[56] cf. Süddeutsche Zeitung, March 22nd, 1999

[57] cf. Süddeutsche Zeitung, 28th June 2000: "ProSiebenSAT.1"; tv media, 5st July 2000, p. 38 f.

[58] Frankfurter Allgemeine Zeitung, 26th July 2000, Süddeutsche Zeitung, 26th July 2000

Another move in the free-to-air TV sector may be connected to the online strategy of Kirch Group. The group is reported to buy shares of tm3, a free-to-air programme owned by Rupert Murdoch's News Corporation.[59] The BLM (Bavarian regional authority) says that it will not object to this venture, since the combined (free-to-air) audience market share of Kirch Group (Sat 1, ProSieben, Kabel 1, N24, DSF) and tm3 would be 28 %, i.e. below 30 %, which would be the critical mark in terms of media concentration. tm3 will be re-launched under a new name ("Sun-TV" has been mentioned as a potential name) on 11th November 2000. The new programme will be positioned as a zeitgeist and entertainment oriented channel which strategically combines TV and internet activities.[60]

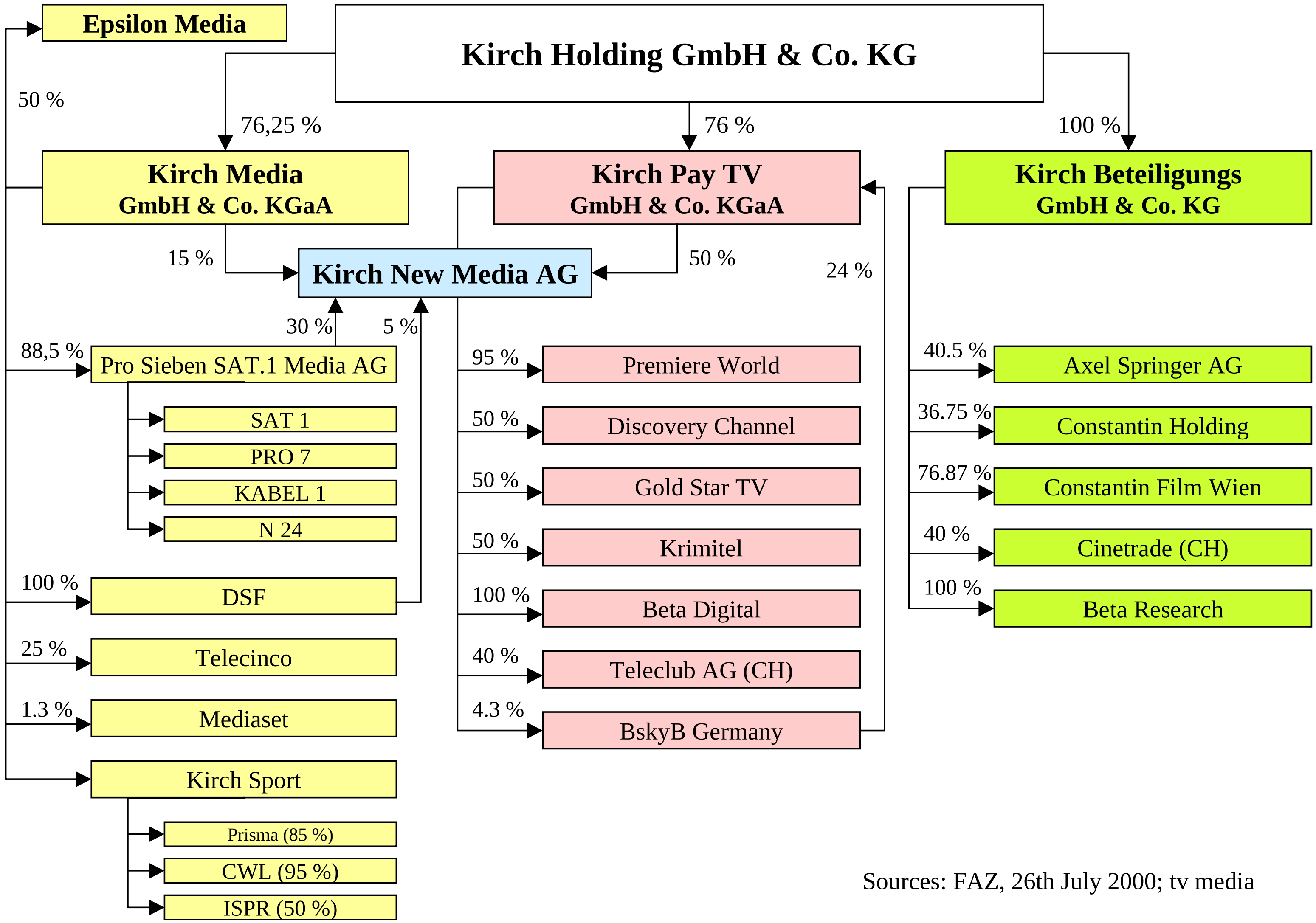
The co-operation between Rupert Murdoch and Leo Kirch may become even closer. Reports say that the media moguls negotiate a deal that Murdoch purchases shares of Kirch Media in the value of several hundred million DM. Murdoch would then replace Springer Verlag as Kirch's partner in the commercial broadcasting and licence rights trading business.[61]

[59] News Corp. bought the remaining 34 % of TM3 from Herbert Kloiber in April 2000.

[60] Münchner Merkur, 22nd July 2000; Kabel & Satellit, Nr. 30, 24th July 2ßßß

[61] Süddeutsche Zeitung, 31st July: "Das nächste Geschäftchen"

Organisation of Kirch Group (July 2000) (simplified)



Sources: FAZ, 26th July 2000; tv media

The sale of the cable TV net of Deutsche Telekom

Deutsche Telekom sells (at least parts of) its cable TV network. About 18 million households are connected to the 460,000 km network. In the 1998 balance sheet of Deutsche Telekom, the value of the cable TV network is calculated at about 4 billion Euro. However, investments of about 2.5 billion Euro will be required to upgrade the net in order to provide the basis for a back-channel allowing interactive services.

The first step to prepare this move was to separate the cable unit. In January 1999, Deutsche Telekom established the **Kabel Deutschland GmbH**, a 100% subsidiary owning the whole cable TV net of the Telekom.

Telekom followed the strategy to divide its cable network into nine regional divisions and then to sell these divisions locally. This is regarded as a strategic move in order to minimise national competition for telephone or online services (such as provided by Telekom subsidiary T-Online).

- Initially, Telekom launched an official call to make bids for its cable net. made until August 13th, 1999, for shares of at least 10% and no more than 75% of the network. Investment bank NM Rothschild & Sons was contracted to process the deal.

  The Deutsche Bank was first to make a bid[62], but the offer (estimated at between 2.5 to 4.6 billion Euro) was rejected by Deutsche Telekom. In August 1999, Deutsch Bank announced that its 100 % subsidiary **DB Investor** would make bids for all nine regional cable divisions.[63] In April 2000, Deutsche Bank withdraw from the negotiations. A consortium built by DB Investor (a 100 % subsidiary of DB) and Hypo-Vereinsbank had negotiated with Telekom regarding the Bavarian cable net of DT. DB Investor was also involved in negotiations concerning the nets in Bremen and Lower Saxony.[64]

- In November 1999, Telekom AG announced to change its strategy. It said that a share of 35-45 % of the nine regional cable divisions should not be sold to corporate buyers but be issued on the stock market. Telekom would keep 25.1 % of the shares. Telekom said that it expected to achieve a better price by selling a part of the shares on the stock market. The associations of private network operators (ANGA) was irritated by this move, since it could further delay the procedure, and consequently, hinder the required technical upgrade of the cable network.[65]

- The first regional division of the cable network to be partly sold was the one in North-Rhine Westphalia. US investor **Callahan** bought 55 % of the network in February 2000.[66] Callahan also negotiates a deal concerning the network in Baden-Württemberg.[67] Experts

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[62] At the end of May 1999, Deutsche Bank Investor, a share holding subsidiary of Deutsche Bank, bought 100% of the cable net provider Telecolumbus. Telecolumbus was previously owned by the energy supply companies VEBA and RWE via their common telecommunication subsidiary Otelo, at a price of about 740 million Euro. Telecolumbus has got about 1,7 million customers. It is the second biggest German cable net provider after Deutsche Telekom.[62] If Deutsche Bank also bought large parts of the Telekom cable net, it would have access to the majority of all German cable net subscribers.

[63] FAZ, 10th August 1999: "Deutsche Bank bietet für das ganze Kabelnetz"

[64] Die Welt, 13th April 2000

[65] cf. epd medium 89/99, 13th November 1999

[66] tendenz, 1/2000

[67] Wirtschaftswoche, 8th June 2000: "Bröckelndes Monopol"

estimate that the price was between 3.5-5 billion DM. The network has 4.2 million subscribers and passes 6.3 million households (including connected households).[68]

- In March/April 2000, Deutsche Telekom AG sold 65 % of the cable network in Hessen to **Klesch** & Company Ltd., a London based investment group. The price was held confidential, but is estimated at about 2 billion DM (1 billion Euro).[69] Klesch has announced to intend an upgrade of the net towards a multimedia network and to increase the number of households passed from 1.8 million to 2.2 million. This will require investments of about 1.5 billion DM within the next three years. Upgrading will include an increase of the broadband capacity to 862 MHz and a back-channel.
- In April/May 2000, **Callahan** Associates took a majority stake in a second of Telekoms regional cable systems. Callahan agreed to buy a 55 % holding in the Baden-Wurttemberg system (2.2 million connected homes).[70]
- The US/Netherlands based company **UPC** (United Pan Communications NV) is reported to be interested in buying shares of the networks of Rheinland-Pfalz and Saarland.[71] The cable company UPC is known as an aggressive buyer and also operates a digital package including the "EX – Extreme Sports Channel", which is also distributed in Germany.

Co-operations and agreements between operators

F.U.N. – the free universe network

http://www.fun-tv.de

In February 1999, F.U.N. (the "Free Universe Network") was founded as a co-operative platform to promote open access to digital platforms. F.U.N. was initiated by ARD, IRT (the Institute for Broadcasting Technology of the German public broadcasters), the media companies Thyssen Multimedia GmbH/Mediagate GmbH, some consumer products manufacturers like Galaxis, Sagem, Echostar, TechniSat and further media and technology companies in February 1999. In August 2000, F.U.N. had close to 40 members.[72]

The main aim of the alliance is to open the market to all suppliers of TV, radio and multimedia equipment by defining reliable technical standards allowing the integration of

[68] tendenz., 1/2000: "Interaktive Zukunft via Kabel erst für Wenige Realität"; screendigest, March 2000, 70

[69] Süddeutsche Zeitung, 1st April 2000: "Klesch erwirbt Hessisches Kabelnetz"

[70] screendigest, May 2000, 136

[71] Wirtschaftswoche, 8th June 2000: "Bröckelndes Monopol"

[72] Members of F.U.N. (August 2000): ARD, EchoStar International Corporation, Channel.One GmbH, Convergence integrated media GmbH, EUROSPORT FERNSEHEN GmbH, Galaxis Vertriebsgesellschaft mbH, GEMPLUS GmbH, GI / FUBA Communications Systems GmbH, Heinrich Bauer Programmzeitschriften Verlag KG, ideeMedien, Institut für Rundfunktechnik GmbH, LM Medienberatung, MEDIAGATE GmbH, MME - Me, Myself and Eye GmbH, NetStage GmbH, OpenTV Inc., Oracle Deutschland GmbH, Panasonic Marketing Europe GmbH, SCIP GmbH, Thyssen Multimedia GmbH, SUN Microsystems GmbH, TechniSat Digital GmbH, ONYX Music Television, Axcent GmbH, Infomatec Media AG, Radix Electronic Vertriebsgesellschaft GmbH, Trend Network AG, Canal Plus Technologies, Scientific Atlanta Europe GmbH, BBC World, NPTV, Humax Electronics Co., Irdeto Access, Visionetics International, Stefan Kleine-Erfkamp, media-netcom, Deutsche Netzmarketing GmbH

Aurora Media Technologies, europeonline, HomeNet Gesellschaft für Medien und Marketing mbH common programming languages like Java. F.U.N. says it is open for any company and institution and has invited Kirch Group, Bertelsmann and Deutsche Telekom to join them. More specifically, the alliance has declared its intention to push the common-interface-technology of the DVB-Group and to actively lobby for open DTV technologies in politics.[73]

F.U.N. promotes the Open-TV software. Jobst Mühlbach, Open-TV Account Manager, estimates that the installed base of set-top-boxes with the Open-TV software in Germany is about 50,000 (July 2000).[74]

F.U.N. criticises the proprietary STB policy of Premiere World. The interest group argues that the d-box does not have a common interface, and that users are therefore not in a position to freely select different digital services with one box. The platform takes the position that – in the future – there will be free-to-air digital TV services and others based on pay-TV via conditional access. Both types of services will be based on DVB standards, and universal decoders equipped with a common interface should enable both types of services.

The platform also criticises Deutsche Telekom: Deutsche Telekom decided to encrypt all services on its cable systems, including services that are available free-to-air on terrestrial networks. This allows tiering and prevent fraud. Therefore F.U.N. set-top-boxes cannot be used on the cable because they do not contain a Conditionnal Access System facility.

F.U.N. has announced to define a model ("F.U.N. profile") for open access to digital services. Members of the platform that follow this model ("F.U.N. associated units") may put a seal on their products as a quality signal for customers. F.U.N. argues that their specifications should guarantee for the customer:

- investment security (i.e. not being dependent on single provider, remaining compatible with older versions)
- and a technology that allows for technical innovation.

F.U.N. argues that technology should be "planable" by only using established standards and system components that are openly available on the market. The open and non-discriminatory access to digital platforms should encourage service providers with different underlying business models to launch new services, based on agreements among each other about the standards to be used.

[73] cf. www.fun-tv.de, June 10th, 1999.

[74] quoted by Handelsblatt, 18th July 2000

Co-operation(s) between Premiere World and Deutsche Telekom

Deutsche Telekom has agreed with Kirch Group to take over the subscriber management of Premiere World subscribers who receive the pay-TV service via cable. In the second quarter of 2000, more than 100,000 d-box owners with a cable subscription have received a smart card of MediaVision, the digital TV service provided by Telekom. This card replaces the former smart cards of Premiere Digital, DF1 or Premiere World. The old cards will no longer work as of August 2000. New subscribers have received the MediaVision smart card already since November 1999. With the MediaVision smart card, Premiere World (cable) subscribers have – in addition to Premiere – access to the free-to-air digital services of MediaVision and can subscribe to its pay-TV packages.

Already in July 1999, Kirch Group and Telekom agreed that Premiere World should be marketed and sold by the Telekom service outlets "T-Punkt". The commission for Telekom for each subscription sold should be 25 %.[75]

Third try for technology co-operation

Deutsche Telekom and Kirch Group have also started another effort to create a technology pact centred on Kirch Group's BetaResearch division and its d-box decoder.[76] The intention is that DT takes a stake of 51 % in the unit. Two previous attempts by Kirch to partner Deutsche Telekom in its technology division were blocked by regulators:

- In 1995, the EC blocked a three-way-deal between Bertelsmann, Kirch and Telekom to found the Media Service GmbH (MSG).
- In 1998, the European Commission blocked the second attempt for a three-way-deal between Deutsche Telekom, Kirch and CLT-Ufa because the players were too dominant in the German TV market.

The planned co-operation would include hardware and software development for both interactive television and the internet.

Vertical integration

Due to the new mergers and co-operations since 1999 (Kirch & Murdoch, Sat1 & ProSieben, Premiere & Deutsche Telekom), vertical integration in the German TV market has considerably increased. Vertical integration plays an important role in the German digital TV market at least in two ways:

[75] Süddeutsche Zeitung, 23rd July 2000: "Kirch betritt den T-Punkt"

[76] screendigest, March 2000, 74; INFOSAT, 8th August 2000, p.3: "Ins Abseits gestellt"

Kirch Group's control of the digital pay-TV value chain

- Owning the **digital platform**: Kirch group owns 95 % of Premiere World.
- **Licence rights for content**: Kirch Group does not only own the distribution platform, it is also the most important holder of licence rights for TV contents, especially in the area of movies, but also increasingly in the sports market. Kirch Group is estimated to hold rights for about 85,000 hours of films and series, including 16,600 feature films and 52,500 hours of TV series.[77] He has output-deals with the US film studios Universal and Columbia. Exploiting its strategic alliance with Silvio Berlusconi in the production company Epsilon[78], Kirch and Berlusconi are expected to make huge investments into rights for TV films and series over the next years. Kirch Sport has bought the German rights for the Football World Championships 2002 and 2006 for 1.7 billion Euro. After it became clear that the championship in 2006 will take place in Germany, the value of this package has dramatically increased.
- Shareholder in the **(analogue) commercial TV** market: Finally, Kirch Group has a strong position in the analogue commercial (free-to-air) TV market in Germany. Kirch Media owns 52.5 % of the Pro Sieben Sat 1 Media AG, which controls Sat1, Pro 7, Kabel 1 and N24.
- Ownership of **digital channels**: Subsidiaries of Kirch Group hold shares of several of the channels of the Premiere World packages.

Kirch Group's participation in thematic TV channels capital

Channel	Branch of Kirch Group	Percentage controlled
GoldStar TV	KirchPayTV	50 %
classica	KirchBeteiligungsGmbH	100 %
K-toon / Junior	KirchMedia	50 %
Discovery Channel	KirchPayTV	50 %

- control of **hardware** production (BetaResearch)

Deutsche Telekom: gate keeper & service provider

Deutsche Telekom has a dominant position in the cable TV market. The decision of Deutsche Telekom to impose d-box as the only decoder enabling the reception of digital services via its cable network is therefore questionable. Telekom also operates its own digital service, "MediaVision" and thus controls infrastructure, content and customer access.

[77] tv media, 31/00, 26th July 2000

[78] Kirch Group holds 59 % of the TV production company Epsilon and 1.3 % of the Italian TV-holding Mediaset (Canale 5, Italia 1, Retequattro)

Telekom is the most important "gatekeeper" in the cable services market. It can use this role to put pressure on other service providers, as the debate about commissions Telekom wants to receive for distributing services over their cable network shows:

- RTL criticised that the planned fees of Deutsche Telekom for their digital cable channels were "unacceptably" high. MSG, the cable subsidiary of Telekom, has presented model contracts for future service providers who wish to have their programmes fed into the cable network. According to this model, MSG will – in contrast to the current practice – not only demand a fixed price, but also commissions for interactive business done via their digital programmes. MSG wants to keep 30 % of the net revenues resulting from e-commerce or interactive services viewers pay for. Hans Mahr, information director of RTL, called these plans "a little bit frivolous" and said that it was unattractive for service providers to launch any e-business on the cable net if 30% of the profits would have to be paid to the network provider. He also criticised that Telekom was lagging behind in upgrading their network to enable multimedia services. The Landesmedienanstalten have already announced to investigate the plans of MSG.[79]

Impact on regulation

An important question is what type of regulatory framework will be the best to address issues of vertical integration and – consequently – market concentration. In a position paper from 19th May 2000, the DLM (Directors' Conference of the Landesmedienanstalten) addresses the EC's DG Information Society's plans relating to a regulatory framework for communication infrastructures and services.[80] The DLM states that the EC's approach to have separate regulatory regimes for infrastructure and content will lead to problems because of the vertical integration of distribution and content is not sufficiently considered. DLM illustrates this point with the following arguments and examples:

- Telecom operators extend their business into the content sector by packaging and marketing contents
- Whilst distribution channels multiply due to technological progress, premium content remains scarce and thus increases its value

Regulation of content and distribution channels can therefore not be separated, according to DML.

Regulatory framework and issues of debate

New provisions for digital TV in the Rundfunkaenderungsstaatsvertrag

On 1st April 2000, the 4th Rundfunkaenderungsstaatsvertrag, i.e. the new version of the Rundfunkstaatsvertrag, came into force. § 53 regulates the "free access" to decoders for

[79] Süddeutsche Zeitung, 31st May 2000: "Stöhnen über Kabelpreise"

[80] Stellungnahme der Direktorenkonferenz der Landesmedienanstalten in der Bundesrepublik Deutschland (DLM) zu den unter dem 27.04.2000 von der Generaldirektion Informationsgesellschaft der Europäischen Kommission vorgelegten Arbeitspapieren für einen Rechtsrahmen für Kommunikationsinfrastrukturen und zugehörige Dienste

television services. The paragraph contains important provisions for the future of digital TV in Germany. Summarised, the main provisions are:

- (1) Providers who produce or market television access services have to grant service operators access to their decoders on "equal, fair and non-discriminatory terms". Non-discriminatory terms are only realised in case the decoder is equipped with open access interfaces. Those interfaces have to be in accordance with the latest technology and with European standards.
- (2) This requirements apply for decoders and programme navigation systems.
- (3) Service providers with a dominant position in the market of packaging and marketing of programmes must not hinder other service providers or treat requests of such service providers different to similar requests of other providers.

Although the provision does not explicitly rule that decoders have to be equipped with a common interface, there is some evidence that it can be read as a first step towards this direction. On 27th June 2000, the DLM – Direktorenkonferenz der Landesmedienanstalten (Directors' Conference of the regulatory authorities of the Laender) has decided on a statute ("Satzung") regulating the "open access to digital services according to § 53 Abs. 7 Rundfunkstaatsvertrag". The Satzung aims at establishing a "non-discriminatory access to digital platforms and navigators with equal opportunities for players". It demands that digital decoders are equipped with interfaces that enable access to third parties for producing and operating their own services. In a hearing, DLM gave players the opportunity to present their view about the new statute. ARD, ZDF, Deutsche Telekom AG, and Kirch Group as well as associations and service providers presented their positions. The Satzung will come into force on 1st November 2000, provided that the Boards of the Landesmedienanstalten have enacted the Satzung by this time. The text of the Statute can be downloaded from the internet at http://www.alm.de/bibliothek/digsatz1.doc.

Legitimacy of digital ventures of public broadcasters

There is some debate as to whether public service broadcasters should be allowed to extend their services using digital TV, since the digital pilot projects of ARD and ZDF are to a large extent financed through broadcasting fees from viewers. The Association of Private Broadcasting and Telecommunication Providers (VPRT) demanded that a limit to the expansion of public service broadcasting should be defined in the fourth “Rundfunkänderungsstaatsvertrag”.[81]

The Rundfunkänderungsstaatsvertrag followed this request in part, but allowed ARD and ZDF to launch digital special interest programmes with a certain limit. § 19 rules the satellite broadcasting and digital services by the public broadcasters. It stipulates that ARD and ZDF are entitled to "operate additional services in digital technology". The total amount of these programmes or packages, however, "must not exceed the volume of three analogue programmes" (for ARD and ZDF together). Additional digital services need a special agreement from the Landesmedienanstalten.

Increase of broadcasting licence fee for households

[81] cf. w&v, March 19th, 1999.

The broadcasting fee for households will increase from 28.25 DM (about 14 Euro) to 31.58 DM (15.60 Euro) in January 2001. Whilst public broadcasters appreciated the increase, the commercial broadcasters criticised the decision. About two thirds of the licence fee are for TV services, one third for radio programmes. It was also decided that owners of PCs with internet access will not be charged a broadcasting fee until at least 2004.

Legal dispute between Deutsche Telekom and ARD concerning cable fees

Deutsche Telekom has announced to launch a test case against ORB, the regional ARD broadcaster of Brandenburg. Telekom argues that public broadcasters should also be obliged to pay a fee for having their programmes fed into the cable networks. It will apply to the court and to the cartel office to effect a ruling. Until now, the public broadcasters can distribute a part of their 15 programmes for free. Based on current legal provisions, ORB does not have to pay for the distribution of its programme in the cable networks of Berlin and Brandenburg. Telekom demands a payment of about one million DM per year. Commercial broadcasters have to pay a fee to Telekom.[82]

[82] Süddeutsche Zeitung, 24th July 2000: "Telekom und ARD streiten ums Kabel-TV"

1.4.Technical issues

Decoder issues

Simulcrypt vs. common interface

The decoder debate is one of the major issues in Germany with regard to the development of digital television. It is mainly a political question that has to be answered: Should technical specifications of digital decoders be left to the market, or should "open systems" (e.g. boxes with common interface) be enforced by regulatory provisions? In practical terms, it is a battle of the simulcrypt vs. the common interface approach. Kirch Group favours simulcrypt, but recent trends and decisions point towards a digital TV future based on CI.

The German decoder market is to a large extend dominated by the d-box. However, there has been criticism about the "discriminatory potential" of the d-box from the beginning. Decisions in Switzerland and Germany (see below), as well as conditions imposed upon Kirch Group by the European Union have strengthened these critical positions. Many experts argue that the strategic intention of Premiere World was to close the decoder market in order to maintain their role as the "gate-keeper" in the digital TV market. It is likely that the operator will not be able to keep that position in the way it does now.

The ongoing debate about the d-box

Since its introduction in 1995, the d-box has been in the limelight several times. The decoder debate revolved around the issues of

- publishing the API source code and granting licences for the CA system to other hardware manufacturers
- equipping the d-box with a common interface that allows users to have access to other digital services as well

After heavy pressure from competitors, Kirch Group announced In January 1999 to publish the API source code for the d-box.[83] Meanwhile, the "betanova" API has been developed, and a software developer kit for betanova is available.[84]

Regarding CA, content providers and hardware manufacturers complain that Kirch Group is in a position to deny access to third parties by withholding licences, despite the obligation to license the CA system on “fair, reasonable and non-discriminatory” terms (in accordance with the TV standards directive 95/47). Despite the availability of the API software developer kit for the d-box, there is still criticism – mainly by the public service broadcasters – on the interdependence of the API source code and the encryption system IRDETO. They argue that the API source code of the d-box is so closely intertwined to the IRDETO encryption system that services programmed with this API code cannot be used on decoder boxes not operating with IRDETO.

BetaResearch totally disagrees, arguing that criticism had political motives rather being based on facts. Kirch Group underlined its policy of opening the d-box specifications to different

[83] cf. Süddeutsche Zeitung, January 13th, 1999.

[84] cf. <http://www.betaresearch.de/product/betanova-d.html>

hardware manufacturers by having Beta Research granting a third licence for the construction of the d-box to the French producer Sagem (after Nokia and Philips) in April 1999.

However, the arguments of the critics have been freshly nourished by decisions of the regulatory authorities in Switzerland and Austria not to allow dominant operators to use the d-box for their digital services, mainly using the same arguments as the German critics of the d-box do:

Decisions about the d-box by regulatory authorities in Switzerland and Austria

	Switzerland	**Austria**
Time	November 1999	May / June 2000
Institution / authority	UVEK - Eidgenössisches Departement für Umwelt, Verkehr, Energie und Kommunikation (Swiss Department for Environment, Traffic, Energy and Communications)	1. Constitutional Committee of the Austrian Parliament 2. Government
Decision	Pay-TV service provider "Teleclub"[85] must not use the d-box as decoder for future digital services, because d-box lacks a common interface. The argument was that d-box would not allow users to freely select the service.	1. The Committee proposes that beginning with 1st June 2001, all digital decoders or TV sets with integrated decoders sold in Austria have to be equipped with common interface technology. 2. Shortly after, the Government removes the passage mandating a CI slot in set-top-boxes on short notice.
Impact	Teleclub has postponed its initial plans to launch a digital service. The company states that there is no alternative to d-box that fulfils the technical requirements. The decision of UVEK would therefore "obstruct digitisation of TV services in Switzerland".[86]	Public broadcaster ORF may have to re-consider its earlier decision to use d-box as the future decoder standard for its digital services.

In the United States, the FCC will also enforce CI modules as a 'must have' for digital decoders. Boxes without common interface will probably be illegal in the future.

The German Landesmedienanstalten (the regional regulatory authorities of the Laender) have also dealt with the set-top-box issue in the directors' conference (DLM) on 18th April 2000. They have issued a paper saying that they want to encourage more competition in the digital

[85] Kirch Pay-TV holds a 40 % stake in Teleclub

[86] Fax by Teleclub, 9th August 2000.

decoder market. The DLM stated that the objective has not yet been realised that every set-top-box allows the usage of all available digital services. The aim is that "consumers can access different services with one box just like it is possible to choose among different online services with one modem".[87] The digital TV working group of DLM has issued a statement[88] saying . . .

- . . . that the d-box enables the reception of pay-TV and free-to-air programmes, but only those interactive services that have been programmed specifically for that box
- and that other satellite decoders than the d-box available in Germany enable the reception of all digital free-to-air programmes, "but not Premiere."

In order to overcome that market impediment, DLM demanded a concrete schedule from manufacturers of decoder boxes how they plan to migrate towards the Multimedia Home Platform (MHP) standard. DLM regards MHP as the basis for interactive services of the future. Secondly, DLM expects set-top-box and cable modem providers to develop mechanisms that allow users to select between different services available in the market. This requires – according to DLM – that boxes cannot only be rented but also purchased, and that Premiere can be received on other boxes than the d-box via common interface.

The working groups of DML will suggest concrete technical and regulatory provisions how to realise these goals. The concessions Kirch Group and Rupert Murdoch have made to the European Commission as a basis for the acceptance of their deal are regarded as very important in order to enforce these measures.

Technical and market development of the d-box: the new generation

The d-box is a development of BetaResearch, a 100% Kirch Group subsidiary. The first generation of the box was equipped with the encryption system of Irdeto and built by Nokia.

Since November 1999, the second generation of the d-box is in use. The hardware manufacturers Nokia, Philips and Sagem are licensed to produce the new d-box. There are three versions of the d-box for cable, satellite and digital terrestrial reception. The new d-box is prepared to enable services based on the MHP standard. It is equipped with a 56k modem, allowing access to online services and to the internet, with a 40 MB RAM memory and with two smart card slots for future e-commerce applications (e.g. home-banking).

The CA system of the new box is BetaCrypt, which has also been developed by BetaResearch. BetaCrypt is based on the previous Irdeto system. The API ("Betanova") is based on the specifications of DVB-Java (capable for HTML-applications). The Betanova software developer kit (SDK) for the d-box system software gives C/C++ programmers access to the d-box platform. BetaResearch states that the SDK allows the development of applications (such as EPGs, games etc.) that can be loaded to the decoder via satellite or cable.[89]

The d-box will be offered for sale in the near future for a price of about 500 DM (250 Euro).[90]

Premiere World confirms that the next generation of the d-box will be fully compatible with the Multimedia Home Platform (MHP). In its public statements, the pay-TV service provider

[87] epd medium, 29th April 2000

[88] chairman of this working group is Hans Hege from the Medienanstalt Berlin-Brandenburg

[89] http://www.betaresearch.de/product/product.html

[90] Kabel und Satellit, 17th July 2000

is very positive about MHP, arguing that MHP will accelerate the market penetration of digital TV (and especially pay-TV), provide an opportunity for new business models and create incentives for interactive TV. Ferdinand Keyser, Managing Director of Premiere World, states that BetaResearch has supported the standardisation process of MHP from the beginning.[91]

Mr. Keyser says that the new d-box will offer "numerous interactive add-ons that will allow subscribers to use new multimedia services." Thus, the 3rd generation of d-box may extend the business area of pay-TV to interactive services, such as pay-per-view systems using the remote control. It is planned to offer internet access via the d-box by using a special browser. The d-box will also enable e-commerce and information services, according to Mr. Keyser. Thus, the operators market the d-box as a "personal multimedia terminal" and a "home entertainment center".

In late August 2000, the new d-box will receive a software-update (version 1.5) via satellite or cable. Version 1.5 is expected to offer the following features:[92]

- automatic switch to 16:9
- The navigation will be simplified for the user. The various "assistants" will be integrated into one system.
- VCR signal can be passed through the d-box, even in stand-by mode
- video-text reception on television (is inserted into the FBAS-signal)

Other decoders in the market

"Free-Air-Boxes" for reception of (free-to-air) digital satellite programmes

About 40 manufacturers offer set-top-boxes for reception of digital satellite programmes.[93] Most of these boxes enable users to receive free-to-air programmes, but not Premiere World. The price for such set-top-boxes is usually between 250 and 500 Euro. Manufacturers offering such boxes include Amstrad, Echostar, Ferotron (Orbitech), FTE maximal, Galaxis, Hirschmann, Humax, Huth, Hyundai, Kamm, Kathrein, Loewe Opta, Lorenzen, Panasonic, Sagem, Schwaiger, Strong, Technisat, Zehnder.[94] Some of these free-to-air-decoders contain free slots (Common Interface) for the optional use of different CA-modules.

SES/ASTRA estimated the total number of digital (free-to-air) decoders in Germany, Austria and Switzerland at about 160,000 units for the end of 1999.[95]

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[91] Presentation by Ferdinand Keyser, Managing Director of Premiere World, 21st March 2000, at the Handelsblatt Konferenz "Zukunftsforum Medien". Presentation can be downloaded at http://www.premiereworld.de (Presseservice)

[92] Press information by Set-Top-Box.de, 25th July 2000

[93] cf. Handelsblatt, 18th July 2000

[94] A comprehensive list of set-top-boxes available in Germany is available at http://www.set-top-box.de/geraete/stb.htm. Set-Top-Box.de is an information and market overview of digital TV and DVB receivers in Germany provided by Hofmeir Media GmbH.

[95] SES/ASTRA, German Satellite Monitor, Infratest Burke

Boxes offering web TV and online multimedia services

Access to the world wide web via television does not gain momentum in Germany. A survey among consumer electronics retailers found that set-top-boxes offering access to the world wide web on TV are hard to sell. Consumers are not at all interested in that type of service. The leading producers of web boxes in Germany are Metabox AG in Hildesheim, Philips, Loewe and Grundig. None of their solutions to surf the web on TV has been successful in the market until now, say retailers.[96] Loewe offers TV sets ("Xelos @media TV") with an integrated decoder for a price of about 2500 Euro.

The big question is whether the MHP standard will finally drive convergence of internet and TV. The "Deutsche TV-Plattform", a co-operative platform of network operators, producers, broadcasters and public authorities tries to push the technical advancement of the MHP standard in order to combine TV and internet. Hardware manufacturers Panasonic, Philips and Sony participate in these efforts. The first boxes that enable access to MHP based services are expected for end of this year or early 2001.

PC-cards / USB-boxes

The number of available PC-cards for reception of digital TV programmes on computers has increased over the past 18 months. Some of these cards can also be used to receive data (e.g. from the internet) via satellite. The average cost for PC-cards / USB-boxes is between 200 and 500 Euro. The diffusion of this technology, however, is far from reaching critical mass. Manufacturers offering PC cards include Galaxis, Hauppauge, Huth, Pentamedia, Philips, Siemens, TechniSat, Telemann. USB-boxes are offered by SCM and Sican.

Wide-screen (16:9)

The vast majority of the players – including broadcasters, manufacturers, retailers and consumer associations – is convinced that 16:9 will be the television format of the future. However, the pace of innovation, i.e. the diffusion of 16:9 equipment and programming in Germany, is not a fast one, but takes more time than anticipated.

The problem for the 16:9 development obviously is how to overcome the "chicken-and-egg" dilemma, i.e. the question who will go first: consumers or broadcasters. As long as only little content is available in 16:9 format, consumers have no incentive to "upgrade" their TV set to 16:9. Broadcasters, on the other hand, hesitate to broadcast in 16:9 since they do not want to annoy their audience. As a consequence, the impact of 16:9 television on the development of digital TV has been modest up to now.

Except Premiere and Sat 1, none of the commercial broadcasters transmits programme in 16:9 format. Premiere, a former forerunner in 16:9 programming, has changed its policy after the merger with DF1. The digital channels of Premiere World do not broadcast in 16:9, but in standard 4:3 in letterbox format, since the d-box is currently not running with a software capable of 16:9.[97]

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[96] survey by ComputerPartner, a German IT magazine. Quoted in i-business, 25th July 2000 <www.ibusiness.de>

[97] Information based on an interview with Ms. Christine Landau from Premiere World on 21st July 2000.

Even the public broadcasters, who consider themselves as innovators in 16:9 television, broadcast only a small percentage of their total programme volume in 16:9. ARD broadcasts 550 hours in 16:9 annually (1999), and ZDF 800 hours, which is about 7-9 % of the total volume.

About 3 % of all German TV households are equipped with a 16:9 TV set. About 6 % of all units sold today are 16:9 sets.

Movies and documentaries are the dominant programme genres for 16:9 television. No major sports events are broadcast in 16:9. Manufacturers argue that sports could be the "killer application" (i.e. programme) for a final breakthrough of 16:9 television.

Volume of 16:9 programmes distributed by German broadcasters

TV station	Hours broadcast in 16:9 * (1999)	Percentage of total programme
Premiere (World)	1945 (only analogue programme – the digital programme of Premiere World is currently not broadcast in 16:9)	(used to be about 20 % of the total programme of Premiere before launch of Premiere World)
ARD	550	about 7 %
ZDF	800	about 9 %
3 sat	900	no data
RTL	0	0 %

* both analogue PAL+ and digital

Portable & mobile reception

Portable reception has been an important issue in the DVB-T trials. Most of the trials (see chapter on deployment of Digital Terrestrial TV) are about to be finished or have recently been finished. Definite conclusions with an impact on the German policy in digital terrestrial television are not yet available.

- 2+ TV set homes and TV equipment for vacation homes are arguments for the introduction of DTTV, since they may depend on terrestrial reception.

- Trials are testing mobile reception along highways or railways and portable reception with small aerials. At this point, there are mainly prototypes of receivers for digital terrestrial TV (DVB-T) in the German market and a number of DVB-T boxes from the UK.

Portable and mobile reception are considered as major advantages of terrestrial broadcasting in relation to satellite and cable television which may justify the technical effort of switching from analogue to digital terrestrial broadcasting.

1.5.Conclusions

The business models: digital pay TV vs. analogue advertising financed TV

Digital pay-TV is still a difficult high-risk business in Germany. The merger of DF1 and Premiere into Premiere World in October 1999, which terminated the cost intensive and sometimes brutal competition between the two dominating service providers, seemed to enable the final breakthrough for digital pay-TV in Germany – albeit with a high level of market concentration. And indeed, the new service attracted more than 300,000 new subscribers in the first three months. However, the initial push did not last for long. The total subscriber base of Premiere World (digital & analogue service) has hardly increased since January (from 2.1 million to 2.2 million at the end of June 2000). It is doubted if Premiere will succeed to hit its target mark of 2.9 million subscribers by the end of 2000.

At this point of time, digital (pay) TV’s most threatening competitors do not come from within the digital ranks. Due to the wealth of public and commercial programmes still available as analogue free-to-air (advertising financed) TV (either via satellite or via subscription to a cable TV network), it is extremely difficult for service providers to offer consumers a clearly perceivable added value with their pay packages. For the next 2-3 years, it is therefore to be expected that there will be a "war" between two business models: advertising financed "free" programmes and subscription based "pay" services. The question is if there will be a market driven shift from the still dominating free-to-air philosophy (advertising financed) to a pay-TV philosophy in Germany. German football can be a first indicator for such a shift: For the first time after many years, no more live broadcasts from the 'Bundesliga' will be shown on free-TV channels, but exclusively on Premiere World.

The players: The war of two "TV families" (Bertelsmann vs. Kirch Group)

The withdrawal of Bertelsmann from Premiere terminated the competition between Kirch Group and Bertelsmann in the pay-TV arena. However, the two most influential media moguls continue to compete each other in the TV market. Both have established a powerful "family" of TV programmes. Bertelsmann controls the RTL family (RTL, RTL2, SuperRTL, and Vox). Kirch Group controls 88.5 % of the newly founded ProSieben Sat 1 Media AG (ProSieben, Sat1, Kabel 1, N24, DSF), the result of a recent deal (June 2000) between ProSieben Media AG and Sat 1. In sum, these two programme families have an audience market share of more than 50 % and skim off about 85 % of the total German TV advertising market. In 1999, the Kirch Group's TV family generated more advertising revenues than the RTL group (Kirch family: 2 billion Euro; RTL family: 1.7 billion Euro), but the RTL group generated slightly higher profits (both groups about 200 million Euro).

Thus, the German TV programmes of the year 2000 can be structured into four groups: the public broadcasters, two commercial programme families controlled by Bertelsmann and Kirch, and a number of commercial programmes not belonging to one of these groups.

The content: "Football is king" in digital pay-TV

German football is the no. 1 premium content for digital pay-TV. It is the unchallenged focus of recent marketing activities of Premiere World. The provider offers a sports package with flexible opportunities to order football matches (single match pay-per-view, weekend tickets, season tickets). While the subscriber base of Premiere World has been stagnating over the past few months, the new football packages seem to become a success story. According to Premiere, 110,000 subscribers have purchased a "season ticket" for Bundesliga 2000/2001 (about 145 Euro extra cost). Kirch Group has a four year contract with the Bundesliga, paying about 0.4 billion Euro per season for the exclusive rights to show Bundesliga matches live.

The hardware: Decoder battle to continue - d-box under pressure

The decoder debate is one of the major issues in Germany with regard to the development of digital television. It is mainly a political question that has to be answered: Should technical specifications of digital decoders be left to the market, or should "open systems" (e.g. boxes with common interface) be enforced by regulatory provisions? In practical terms, it is a battle of the simulcrypt vs. the common interface approach. Kirch Group favours simulcrypt, but recent trends and decisions point towards a digital TV future based on CI.

Recent decisions in Austria (albeit cancelled in the last minute) and in Switzerland related to the d-box, as well as a paper by the German Landesmedienanstalten (the regional regulatory authorities of the Laender) put pressure on Kirch Group. The Directors' Conference (DLM) of the Landesmedienanstalten on 18th April 2000 decided that they more competition in the digital decoder market should be encouraged. The DLM stated that the objective has not yet been realised that every set-top-box allows the usage of all available digital services. The aim is that "consumers can access different services with one box just like it is possible to choose among different online services with one modem".[98]

It remains to be seen if the MHP standard helps to overcome this debate. Premiere World confirms that the new d-box (second generation) will be fully compatible with the Multimedia Home Platform (MHP).

The distribution networks: Deutsche Telekom as a digital "gatekeeper"

Looking back on the record of digital TV in Germany since 1996, access to cable networks has proven to be a key success factor for digital services providers. Since Deutsche Telekom has a dominant position in the cable market, it is a most influential "gatekeeper" regarding access to digital services. Telekom's digital policy may have important consequences for the further development of digital television. Two decisions in particular are currently under debate. Regulatory authorities may have to deal with these issues in order to establish fair conditions for market access:

- The decision of Deutsche Telekom to impose **d-box** as the only decoder enabling the reception of digital services via its cable network is questionable. Free-to-air decoders with a common interface cannot be used by cable subscribers, criticised by the F.U.N. platform.[99]
- Decision if Telekom may demand **commission payments** from e-commerce services: MSG, the cable subsidiary of Telekom, has presented model contracts for future service providers who wish to have their programmes fed into the cable network, demanding 30 % of the net revenues resulting from such services (see 1.3.3. "vertical integration").

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[98] epd medium, 29th April 2000

[99] F.U.N. argues: "Deutsche Telekom blocks market access for private, independent digital service providers and even for the multimedia services of public broadcasters. Telekom also blocks a free decoder market." (http://www.fun-tv.de/index2.html, 10th August 2000)

Since direct access to customers is a key asset in the market, cable operators want to play a service provider role rather than a pure carrier one. Telekom co-operates with Premiere World and has a contract for marketing the services to cable subscribers. Telekom also offers a premium pay-TV service to its cable subscribers ("MediaVision"). Premiere World can be subscribed as a part of the MediaVision service.

Convergence: Focus on combining Online & TV

German TV companies are investing big money into creating online platforms. The content of these platforms is strategically linked to their TV programmes, with heavy cross-promotion. The RTL 2 reality show "Big Brother" (10 people living in a container for 100 days, with cameras in every room and a daily summary of the best 'container scenes' in prime time) was a milestone in the TV history how to combine internet and television. Kirch Group as well as the RTL family will both create online platforms.

Interactive services via TV, on the other hand, are still not gaining momentum. There are technical reasons (no back-channel, lack of broadband infrastructure), but it is also a matter of content and comfort. With the increasing diffusion of PC based internet access in households, a lot of interactive services such as home banking, stock trading and e-commerce are performed on the computer. It is questionable if the TV will ever compete with the computer as a platform for interactive services of this type.

2. Key figures for the German market

2.1. Country fundamentals

	1993	1994	1995	1996	1997	1998	1999
Population (millions)		81,539	81,818	82,012	82,057	82,030	82,163
Households (millions)		36,812	36,938	37,281	37,454	37,532	37,795
GDP (in Euros billions)		1747,310	1779,300	1833,900	1879,410	1942,600	1982,330

2.2. Equipment

As of 31 of December	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
TV households (millions)		35,158	35,615	35,862	36,334	36,400	36,800
TV households (% of total households)		95,5%	96,4%	96,2%	97,0%	97,0%	97,4%
TV Households with 2 TV sets or more (millions)		9,900	11,041	12,193	13,262	14,313	15,500
TV Households with 2 TV sets or more (% of TV Households)		28,2%	31,0%	34,0%	36,5%	39,3%	42,1%
TV Households with 16:9 Television sets (millions)		0,035	0,089	0,226	0,454	0,737	1,065
TV Households with 16:9 Television sets (% of TV Households)		0,1%	0,2%	0,6%	1,2%	2,0%	2,9%
VCR Households (millions)		23,290	25,180	26,940	28,490	30,020	31,3
VCR Households (% of TV Households)		66,2%	70,7%	75,1%	78,4%	82,5%	85,1%
Digital STB Households (millions)		0,000	0,000	0,015	0,220	0,662	1,450
Digital STB Households (% of TV Households)		0,0%	0,0%	0,0%	0,6%	1,8%	3,9%
IDTV Households (millions)		0,000	0,000	0,000	0,000	0,000	0,000
Digital TV Households (% of TV households)		0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Digital Households (millions)		0,000	0,000	0,015	0,220	0,662	1,450
Digital Households (% of TV households)		0,0%	0,0%	0,0%	0,6%	1,8%	3,9%

2.3. Television market estimates

Millions Euros	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
Analogue TV Market						
Licence fees	2898,578	2987,672	3059,719	3486,846	3523,600	3580,000
Advertising	2955,750	3367,602	3703,689	3763,628	3950,000	4317,550
Subscription	1585,979	1736,750	1990,983	2364,668	2408,009	2460,000
Total analogue TV	7440,307	8092,024	8754,391	9615,142	9881,609	10357,550
Digital TV Market						
Licence fees	0,000	0,000	0,000	0,000	0,000	0,000
Advertising	0,000	0,000	0,000	0,000	0,000	0,000
Subscription	0,000	0,000	2,646	41,454	155,497	290,000
Total digital TV	0,000	0,000	2,646	41,454	155,497	290,000
TV Market						
Licence fees	2898,578	2987,672	3059,719	3486,846	3523,600	3580,000
Advertising	2955,750	3367,602	3703,689	3763,628	3950,000	4317,550
Subscription	1585,979	1736,750	1993,629	2406,122	2563,506	2750,000
Total TV market.	7440,307	8092,024	8757,037	9656,596	10036,506	10647,550

2.4. Details of the subscription-TV market

Cable

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
Home passed (millions)		28,190	30,338	31,386	32,200	32,900	33,300
of which digital (millions)		0,000	0,000	0,000	0,500	17,900	18,500
Home passed (% of TV households)		0,0%	0,0%	0,0%	1,4%	49,2%	50,3%
of which digital (% of TV households)		0,0%	0,0%	0,0%	1,4%	49,2%	50,3%
Analogue Basic Subscribers (millions)		15,782	17,080	18,020	18,650	19,400	19,800
Digital package subscribers (millions)		0,000	0,000	0,000	0,108	0,410	0,780
Analogue Basic Subscribers (% of TV households)		44,9%	48,0%	50,2%	51,3%	53,3%	53,8%
Digital package subscribers (% of TV households)		0,0%	0,0%	0,0%	0,3%	1,1%	2,1%

Satellite

	1993	1994	1995	1996	1997	1998	1999
Satellite households (millions)		8,320	9,530	10,000	10,700	11,370	12,140
Satellite households (% of TV households)		23,7%	26,8%	27,9%	29,4%	31,2%	33,0%
Satellite subscribers (millions)		0,215	0,253	0,416	0,607	0,747	0,845
Satellite subscribers (% of TV households)		0,6%	0,7%	1,2%	1,7%	2,1%	2,3%
of which digital (millions)		0,000	0,000	0,015	0,112	0,252	0,520
of which digital (% of TV households)		0,0%	0,0%	0,0%	0,3%	0,7%	1,4%

ANNEX

§ 53 of the Rundfunkstaatsvertrag (in the version of the 4th Rundfunkänderungsstaatsvertrag, enforced on 1st April 2000), regulating "free access" within section IV: transmission capacities)

§ 53

Zugangsfreiheit

(1) Anbieter von Diensten mit Zugangsberechtigung, die Zugangsdienste zu Fernsehdiensten herstellen oder vermarkten, müssen allen Veranstaltern zu chancengleichen, angemessenen und nichtdiskriminierenden Bedingungen technische Dienste anbieten, die es gestatten, dass deren Fernsehdienst von zugangsberechtigten Zuschauern mit Hilfe von Dekodern, die von den Anbietern von Diensten verwaltet werden, empfangen werden können. Die Diskriminierungsfreiheit ist nur dann gewährleistet, wenn die Dekoder über zugangsoffene Schnittstellen verfügen, die Dritten die Herstellung und den Betrieb eigener Anwendungen erlauben. Die Schnittstellen müssen dem Stand der Technik, insbesondere einheitlich normierten europäischen Standards entsprechen.

(2) Die Verpflichtung nach Absatz 1 gilt für Anbieter von Systemen entsprechend, die auch die Auswahl von Fernsehprogrammen steuern und die als übergeordnete Benutzeroberfläche für alle über das System angebotenen Dienste verwendet werden (Navigatoren). Navigatoren müssen nach dem Stand der Technik ermöglichen, dass im ersten Nutzungsschritt auf das öffentlich-rechtliche und private Programmangebot gleichgewichtig hingewiesen und ein unmittelbares Einschalten der einzelnen Programme ermöglicht wird.

(3) Ein Anbieter, der bei der Bündelung und Vermarktung von Programmen eine marktbeherrschende Stellung innehat, darf andere Anbieter, die einen solchen Dienst nachfragen, weder unmittelbar noch mittelbar unbillig behindern oder gegenüber gleichartigen Anbietern ohne sachlich gerechtfertigten Grund unmittelbar oder mittelbar unterschiedlich behandeln.

(4) Anbieter nach den Absätzen 1 und 2 haben die Aufnahme des Dienstes der zuständigen Landesmedienanstalt unverzüglich anzuzeigen. Sie haben zugleich der Landesmedienanstalt und Dritten, die ein berechtigtes Interesse geltend machen, alle technischen Parameter offenzulegen, deren Kenntnis erforderlich ist, um den Zugang nach den Absätzen 1 und 2 zu ermöglichen. Jede Änderung ist ebenfalls unverzüglich offenzulegen. Die Anbieter haben ferner die für die einzelnen Dienstleistungen geforderten Entgelte offenzulegen. Satz 3 gilt entsprechend. Der zuständigen Landesmedienanstalt sind hinsichtlich der Bedingungen der Absätze 1 bis 3 sowie hinsichtlich der technischen Parameter und Entgelte auf Verlangen jederzeit die erforderlichen Auskünfte zu erteilen.

(5) Die zuständige Landesmedienanstalt prüft, ob der Dienst oder das System den Anforderungen der Absätze 1 bis 4 entspricht. Sie stellt dies durch Bescheid fest. Der Bescheid kann mit Auflagen verbunden werden, die notwendig sind, um die Anforderungen nach den Absätzen 1 bis 4 zu erfüllen. Kann dies auch durch Auflagen nicht erreicht werden oder werden Auflagen trotz Fristsetzung nicht erfüllt, untersagt die Landesmedienanstalt das Angebot des Dienstes oder des Systems.

(6) Veranstalter können bei der zuständigen Landesmedienanstalt Beschwerde einlegen, wenn ein Anbieter von Diensten ihnen gegenüber eine der Bestimmungen der Absätze 1 bis 4 verletzt. Die Landesmedienanstalt hört den Anbieter des Dienstes an. Hält sie die Beschwerde für begründet, gibt sie dem Anbieter unter Setzung einer angemessenen Frist Gelegenheit, der Beschwerde abzuhelfen. Wird der Beschwerde nicht oder nicht fristgerecht abgeholfen, trifft die Landesmedienanstalt nach Maßgabe von Absatz 5 die erforderlichen Entscheidungen.

(7) Die Landesmedienanstalten regeln durch übereinstimmende Satzungen Einzelheiten zur inhaltlichen und verfahrensmäßigen Konkretisierung der Absätze 1 bis 6. Die Regelungen der Satzungen müssen geeignet und erforderlich sein, für alle Veranstalter chancengleiche, angemessene und nichtdiskriminierende Bedingungen für technische Dienste oder Systeme nach den Absätzen 1 bis 3 zu gewährleisten und die Offenlegung technischer Parameter und Entgelte nach Absatz 4 zu sichern. Den in der ARD zusammengeschlossenen Landesrundfunkanstalten und dem ZDF ist vor Erlass der Satzungen Gelegenheit zur Stellungnahme zu geben.

§ 53a

Übergangsbestimmung

§ 3 Abs. 5 gilt versuchsweise bis zum 31. Dezember 2002. Zum 1. Januar 2003 tritt § 3 Abs. 5 außer Kraft.