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SONICBLUE INCORPORATED

11
12 UNITED STATES DISTRICT COURT
13 CENTRAL DISTRICT OF CALIFORNIA

14
15
16 PARAMOUNT PICTURES
CORPORATION; DISNEY
17 ENTERPRISES, INC.; NATIONAL
BROADCASTING COMPANY, INC.;
18 NBC STUDIOS, INC.; SHOWTIME
NETWORKS INC.; THE UNITED
19 PARAMOUNT NETWORK; ABC,
INC.; VIACOM INTERNATIONAL
20 INC.; CBS WORLDWIDE INC.; and
CBS BROADCASTING INC.,

21 Plaintiffs,

22 v.

23 REPLAYTV, INC., and SONICBLUE
24 INC.,

25 Defendants,

26 AND CONSOLIDATED ACTIONS.
27
28

Case No. CV 01-09358 FMC

**ATTACHMENT A TO JOINT
STIPULATION FOR PLAINTIFFS'
MOTION TO COMPEL:
DECLARATION OF PHILIPPE
PIGNON, PH.D.**

Hearing Date: April 23, 2002

Time: 9:00 a.m.

Before: Hon. Charles F. Eick

Courtroom: No. 20

Discovery Cutoff: May 31, 2002

Pretrial Conference: July 29, 2002

Trial Date: August 20, 2002

FENWICK & WEST LLP
ATTORNEYS AT LAW
PALO ALTO

1 Philippe Pignon, Ph.D., declares as follows:

2 1. I am Vice President, Engineering Operations at defendant SONICblue
3 Incorporated. I have worked at SONICblue ever since it acquired ReplayTV, Inc.
4 in August 2001. I began working at ReplayTV in November 1999. Prior to the
5 acquisition, I was Vice President, Software Engineering at ReplayTV and oversaw
6 the design, development, and testing of the ReplayTV 4000 software. I have
7 personal knowledge of the facts stated in this declaration and if called as a witness
8 would testify thereto.

9 **ReplayTV's Decision To Stop Collecting Customer Data**

10 2. ReplayTV and SONICblue do not presently collect data regarding
11 consumers' use of their ReplayTV Personal Video Recorders ("PVRs"). ReplayTV
12 stopped collecting this data in May 2001. This decision came about as a result of
13 cost constraints associated with collecting and storing the information, and because
14 of a formal report by a privacy group attacking our competitor, TiVo, for its
15 collection of subscriber viewing information.

16 3. In early 2001, we became concerned about the cost of uploading and
17 storing log files that were increasing in size. I was asked by the ReplayTV IT
18 department to decrease the amount of data being collected. This would in turn
19 decrease the costs associated with uploading and storing this data.

20 4. In late March 2001, the Privacy Foundation issued a report accusing
21 TiVo of violating privacy rights of its subscribers based on TiVo's user data
22 collection practices. Attached hereto as Exhibit A is a true and correct copy of the
23 Privacy Foundation report entitled "TiVo's Data Collection and Privacy Practices."
24 The report is also available on the Privacy Foundation's website at
25 <http://www.privacyfoundation.org/privacywatch/report.asp?id=62&action=0>.

26 5. Among other issues, the Privacy Foundation criticized TiVo's
27 collection of purportedly "anonymous information" about customer viewing habits,
28 which was reported to TiVo with the user's identifying serial number. TiVo's

1 reporting allowed linkage of the use data to an individual, even though TiVo did
2 not itself make that linkage. See Exhibit A at 6.

3 6. Within a few days after the report was issued, there were a number of
4 articles in the press about the controversy, as well as a request by members of
5 Congress for an FTC investigation into TiVo's practices. Attached hereto as
6 Exhibit B is a true and correct copy of an article dated March 26, 2001 at
7 newsbytes.com reporting on TiVo's "slam" for its collection of purportedly
8 "anonymous" viewing information. Attached hereto as Exhibit C is an article dated
9 April 2, 2001 from newsbytes.com reporting on Congressional calls for an FTC
10 investigation.

11 7. As a result of the adverse publicity TiVo received and the potential for
12 an FTC investigation, ReplayTV reevaluated its own data collection and customer
13 privacy policies.

14 8. We determined that ReplayTV customer information was less
15 vulnerable than TiVo's because TiVo user information was uploaded "in the clear,"
16 while ReplayTV's was encoded. However, we also decided to make significant
17 changes in the amount of consumer data ReplayTV would collect to comply more
18 closely with the recommendations of the Privacy Foundation and avoid the
19 substantial adverse public reaction TiVo confronted.

20 **SONICblue's Privacy Policy**

21 9. SONICblue has adopted a strong policy aimed at protecting the
22 privacy interests of their users. Attached hereto as Exhibit D is a true and correct
23 copy of SONICblue's existing privacy policy. It is also available at
24 <http://www.sonicblue.com/company/privacy.asp>. The policy repeatedly
25 emphasizes the company's recognition of the vital importance of user privacy:
26 "At SONICblue, we believe privacy is a right, not a privilege. In other words,
27 you should expect us to protect your privacy, and you should never have to worry
28 about it."

1 10. SONICblue’s policy identifies three types of information collected:
2 (1) “Personally Identifiable Information,” which is private data collected about
3 customers if they register their units; (2) “Anonymous Information,” which
4 provides information about customers’ use of SONICblue’s services “without
5 connecting that Information to the identities of those people;” and (3) “Technical
6 Status Data,” which consists of “error events and maintenance status events.”

7 11. The Privacy Policy assures customers in at least five places that the
8 Anonymous Information “will not be linked to you without your express
9 permission.” *See* Ex. D at 4. The Policy also demonstrates the substantial lengths
10 SONICblue has taken to ensure privacy protections: “Access to this information is
11 strictly limited to individuals with a legitimate reason to have access and who have
12 signed agreements that prohibit the unauthorized use or disclosure of such
13 information. In addition, all of SONICblue’s stored information is firewall
14 protected against unauthorized ‘hacks’ into our systems.”

15 12. In identifying special circumstances that may require disclosure of
16 information, the Policy states: “SONICblue may disclose Personal or Anonymous
17 Information if required to do so by law or in the good faith belief that such action is
18 necessary or appropriate to conform to the law or comply with legal process served
19 on SONICblue, to protect and defend the rights or property of SONICblue, the
20 ReplayTV Service or our viewers, whether or not required to do so by law, or to
21 protect the personal safety of our viewers or the public.” Even in this situation, the
22 Policy provides for furnishing Personal *or* Anonymous information – but never a
23 linkage of the two without customer consent.

24 **Customer Data Has Never Been Collected For The ReplayTV 4000**

25 13. Neither ReplayTV nor SONICblue has ever collected data about
26 ReplayTV 4000 users other than the limited technical data. The decision to cease
27 collecting consumer behavior data in May 2001 had nothing to do with the
28 development or planning for the ReplayTV 4000 or its features. In fact, the

1 ReplayTV 4000 did not exist at that time.

2 14. When ReplayTV did, for prior PVRs, collect consumer behavior data,
3 the data was one-way encoded such that if someone had the identifying number of
4 the particular ReplayTV unit, one could associate the data with a particular
5 consumer, but not the other way around. The effect was to preserve the uniqueness
6 of the data source. The user's PVR "knew" the number associated with that user's
7 use, but ReplayTV's server was not told to which user that number was associated.
8 ReplayTV also obscured that source information to make it more difficult to link
9 behavioral data with an individual consumer.

10 15. For these earlier PVRs, certain customer behavioral data was logged
11 by each consumer's ReplayTV and stored on the unit's hard drive. This
12 information included certain recording and viewing data, such as time and duration,
13 and the use of various features such as fast forward, rewind or skip. The individual
14 logs were written over daily, so historical behavioral data was not maintained on
15 the user's device.

16 16. ReplayTV had planned to develop the capability to process
17 information about specific programs that were recorded or watched, but that
18 development effort was abandoned when ReplayTV's business model changed and
19 its finances deteriorated starting in the beginning of 2001. As mentioned, this
20 decision was made long before release of the ReplayTV 4000.

21 17. In May 2001, in response to the TiVo publicity (which criticized even
22 the *potential* ability to associate behavior with an individual user) and due to our
23 desire to reduce data storage and communications costs, ReplayTV issued a
24 software release to the PVRs in place. That release "masked" the log codes
25 associated with consumer behavior so that the consumer behavior data would no
26 longer be uploaded at all. Technical information, such as error messages, continued
27 to be uploaded. However, these messages do not contain information about which
28 features a consumer uses or when such features are used. Since May 2001,

1 ReplayTV has not been collecting any of the consumer behavior information that
2 was logged.

3 18. The statements published in SONICblue's Privacy Policy suggesting
4 that SONICblue and ReplayTV are collecting "Anonymous Information" about
5 customer usage, does not accurately reflect the companies' current capabilities.
6 The statement was included in the October 2000 revision of ReplayTV's privacy
7 policy in anticipation that ReplayTV would develop such capability. It was not
8 deleted from the published privacy policy thereafter, even though that capability
9 was never developed.

10 **It Would Take Several Months and Hundreds of Thousands of**
11 **Dollars To Develop Software to Start Collecting this Data.**

12 19. I understand that Plaintiffs in this action have demanded that we write
13 new software to collect customer behavior data for the ReplayTV 4000. ReplayTV
14 has no current business need for such information. Therefore this information
15 would be solely for purposes of this lawsuit. Moreover, if ReplayTV were to begin
16 collecting this information, we would desire to collect it in the aggregate, rather
17 than with connection to any individual user's identification, to avoid the consumer
18 backlash caused by the TiVo experience.

19 20. There are numerous costs involved in starting up collection of
20 consumer data for the ReplayTV 4000. *First*, there is the cost associated with
21 reconnecting the collection and storage systems in place prior to May 2001. This
22 would mean eliminating the "masking" of log codes to receive the consumer
23 behavior information. We would also have to design and develop new software to
24 collect the data for the ReplayTV 4000 because these units have never reported
25 such data previously to the ReplayTV servers. I estimate it would take
26 approximately one month to perform the setup, testing and deployment necessary to
27 begin collecting the logged data from customers' ReplayTV 4000 units. ReplayTV
28 would then incur additional communication costs of approximately **\$10,000 per**

1 **month** and additional storage costs of approximately **\$27,000 per month** if we
2 were to reinstate collection of the full logs. These estimates are only for the log
3 files that were in place in May 2001, which did not collect data on Commercial
4 Advance or Send Show.

5 21. *Second*, since Commercial Advance and Send Show were not available
6 until December 2001, there is no current capability to log information on the PVR,
7 or to report to ReplayTV's servers about new features in the ReplayTV 4000.¹
8 SONICblue would have to absorb the costs of designing, developing and testing
9 new software to collect information for the Commercial Advance and Send Show
10 features. To create log codes for these features and to implement the logging of
11 such behavioral data, is a more difficult task than simply "unmasking" the existing
12 codes from prior software releases. It would require creating the system to process
13 and extract the information demanded. It would require perfecting such a system,
14 including software to be released into the ReplayTV 4000 device itself, as well as
15 software for the ReplayTV servers. This technology is necessary to fully and
16 seamlessly interoperate with both the existing software and hardware. The effort
17 would require other coordination with ReplayTV process to ensure that loads and
18 tasks were appropriately balanced.

19 22. Even if such consumer behavior were logged and collected, it would
20 not include the name of the particular show that was being watched while using
21 Commercial Advance, or that was being transmitted to another ReplayTV user with
22 Send Show. If Plaintiffs insist on linking the log files to actual viewership of
23 television shows, this will require even more expense. Because ReplayTV has
24 never developed software to match specific show information with consumer
25 behavior, we would have to undertake a major software development effort, which

26 ¹ The ReplayTV 4000 does include some software from prior ReplayTV PVRs, including
27 the same logging of consumer behavior that existed in prior versions. Thus, the ReplayTV 4000
28 can log (but does not presently report) consumer behavior such as the number of times a
consumer uses fast forward, as that feature existed in prior PVRs and its use was logged in prior
PVRs.

1 would ordinarily only be made part of a new major software release. The difficulty
2 is, in part, because we currently log only low level data for testing and diagnostic
3 purposes. We would have to create higher level logs to generate the data requested
4 by Plaintiffs. SONICblue would then have to develop a linking system between the
5 databases that would permit such log information to be associated with use of an
6 individual unit and, more importantly, to be associated with the name of a particular
7 show. This would require links to our customer care database, and programming
8 guide database, both of which reside on other servers. My best estimate of the time
9 necessary to develop, test and implement software to perform these tasks is
10 approximately four months for a total cost of **\$128,000**. My estimate of four
11 months was independently corroborated by another senior engineer at the company,
12 who reached the same estimate prior to ever learning of my estimate.

13 23. In light of the fact that SONICblue just underwent another (highly-
14 publicized) reduction-in-force, there are no resources available for such a project
15 without risk to the current product development schedule. Such a court-ordered
16 expenditure would displace SONICblue's own engineering development for its next
17 generation product. This would jeopardize the revenue associated with a planned
18 release in the fall for the Christmas 2002 season where most of the company's
19 revenues are made.

20 24. I understand Plaintiffs have proposed that ReplayTV permit access to
21 its servers to have a third party write software to create and collect the data.
22 Plaintiffs' demand is extraordinary and unacceptable from a software engineering
23 standpoint. The ReplayTV software architecture, design and implementation are
24 critical to the business and are entirely integrated within it. The software does not
25 "stand alone" in a manner that would permit a third party to safely interact with the
26 software and write code for additional features without risk to the entire system,
27 and hence the entire business of ReplayTV.

28

1 capability to compile and aggregate this data, my best estimate is that it will take
2 165 days to complete such a project. Allowing for 8-hour days at \$200 per hour,
3 this comes to a total expense of **\$264,000**. We also would need additional storage
4 capacity at a cost **\$165,000**. This is over and above the costs identified in
5 reinstating the past logging system.

6 28. To simply collect the existing "my.replaytv.com" data and provide this
7 raw data to Plaintiffs will involve costs. I estimate it would cost about **\$600 per**
8 **day** for someone to collect and archive the daily data in a suitable format.

9 29. Any information collected by the service would not be complete
10 because the MyReplayTV service does not include all ReplayTV customers. It only
11 includes those who affirmatively choose to enroll in the service. Only about 10%
12 of ReplayTV customers have "opted in" to the my.replaytv.com service. The daily
13 "snapshots" of information are therefore not captured for the remaining 90%.
14 Moreover, the group of MyReplayTV users is not a random sample, but a self-
15 selected sample and therefore has questionable statistical significance.

16 Conclusion

17 30. As described above, Plaintiffs' repeated statements that ReplayTV
18 presently collects consumer behavior data (such as the use fast forward, Quick Skip
19 or other features) are false.

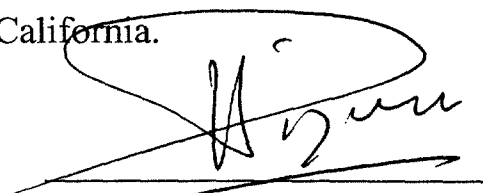
20 31. Furthermore, data collection about shows already recorded or
21 scheduled for recording in the context of the MyReplayTV service, is strictly done
22 with the users' consent and would not be possible without the users' explicitly
23 giving their serial number for that purpose. Plaintiffs can verify this fact
24 themselves by employing the techniques described in the Privacy Foundation
25 Report on TiVo, Exhibit A hereto, to monitor what data is uploaded from their own
26 ReplayTV 4000 units.

27 32. ReplayTV does not now and never has had data on its servers
28 reflecting customer use of the Commercial Advance. Similarly, ReplayTV does not

1 have any data about which shows were sent, when and to whom using the Send
2 Show feature. Indeed, the SONICblue Privacy Policy states clearly that “when
3 sending a show from one ReplayTV 4000 to another, the ReplayTV Service does
4 not track or receive notification of which show is being sent or which shows you
5 record.” See Ex. D at 5.

6 33. Similarly, ReplayTV does not now and never has had information on
7 its servers about what programs are recorded by its customers, except in instances
8 where the customer has consented to providing the list of shows scheduled to be
9 recorded, and presently stored in the hard drive, for the purpose of benefiting from
10 the MyReplayTV service. To obtain generic information about use of Commercial
11 Advance or Send Show, or about specific programs that are recorded by consumers,
12 ReplayTV would have to develop software first to have such information recorded
13 on the customer’s unit, and extracted *from* the consumer’s unit to a ReplayTV
14 server. As already explained, this would require ReplayTV and SONICblue to
15 incur hundreds of thousands of dollars in additional costs for data in which they
16 have no current business need.

17
18 I declare under penalty of perjury that the foregoing is true and correct.
19 Dated April 3rd, 2002 at Palo Alto, California.



Philippe Pignon, Ph.D.

EXHIBIT A

POSTED: 3/26/01

■ TiVo's Data Collection and Privacy Practices



By [David Martin](#)

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■ Introduction

The TiVo personal television product gives home viewers the ability to pause live television, record TV shows by name rather than time and channel, and generally allows users to "time-shift" TV broadcasts into their own schedule. In exchange, TiVo collects both a subscription fee and information about the shows that home viewers record and watch. The Privacy Foundation and University of Denver Privacy Center have recently completed a 4-month independent investigation of the TiVo device.

According to our findings, TiVo:

- gathers enough information to track individual users' home viewing habits while apparently promising not to do so;
- could identify the personal viewing habits of subscribers at will;
- has a much more explicit privacy policy disclosure on its Web site than in the printed material that accompanies the purchase of the product.

The TiVo unit we investigated was sold as a Philips HDR312 at a local Circuit City store.

■ Vendor Response

A draft version of this privacy advisory was provided by the Privacy Foundation to TiVo on March 14, 2001. Senior officers of the company responded in a phone call on March 19, 2001 with the following points:

- TiVo turns off all logging at the incoming FTP servers to prevent the correlation of the anonymous viewing files with the diagnostic files that contain customer ID numbers. TiVo takes a number of other steps to prevent anonymous viewing files from being traced back to TiVo subscribers.
- TiVo claims that it is only interested in compiling customer data to assess aggregate viewing behavior, and has no plans to identify the viewing habits of individuals, nor to use such data for direct marketing purposes.
- The server-side practices of TiVo are beyond the scope of the advisory. TiVo also notes that data about customers is kept in secure servers that can only be accessed by authorized TiVo employees.
- Version 2.0 of the TiVo software will encrypt files that contain personal information, as described in the latest Privacy Promise.
- The latest version of the TiVo Privacy Promise, dated September 2000, addresses many of the issues which the Privacy Foundation advisory brings up. This Privacy Promise is available online at http://www.tivo.com/support/service_privacy_pvr.asp.
- TiVo acknowledges that its privacy practices and disclosures may not be up-to-date in manuals sold with TiVo units, but the company notes that it attempts to alert all customers about the availability of the new Privacy Promise via email and messages on the TiVo service.

■ TiVo Background and Business Model

Launched in 1999, the TiVo service allows viewers to easily record favorite TV programs, or types of programs, for later viewing through a set-top box that can record up to 30 hours or more of programming. The TiVo box can cost several hundred dollars at retail, plus a monthly subscription fee of \$9.95; a yearly fee of \$99.95; or a lifetime subscription fee of \$199.

TiVo Inc., the publicly-traded parent company based in San Jose, Calif., has alliances with major media and technology companies, including its equipment vendors, Philips and Sony; General Electric/NBC; DirecTV;

and a \$200 million investment from AOL Time Warner. In August of 2000, Nielsen Media Research and TiVo announced a strategic agreement to enable opt-in audience measurement through the TiVo service.

As of Jan. 31, 2000, TiVo Inc. reported an installed subscriber base of 154,000. The net loss for the calendar year 2000 was \$206.4 million, on revenues of \$3.6 million.

Aggressive estimates by industry analysts claim that the market for "personal video recorders" from TiVo and other vendors could reach five-to-seven million units by year-end 2002. ReplayTV, a primary competitor to TiVo, was acquired in February by Sonicblue in a \$123 million stock deal. In January, Microsoft announced the launch of its UltimateTV service, which integrates DirecTV programming, digital video recording, live TV controls, interactive television and Internet access.

Among the future business opportunities for TiVo is providing targeted advertising to viewers, according to the company's year-end 2000 report: "This is accomplished by a software program utilizing data stored on the personal video recorder. Individual viewing preferences will not be released to advertisers or other third parties."

TiVo is aware of privacy concerns. In the risks section of its 2000 Annual Report, TiVo writes: "Consumers may be concerned about the use of personal information gathered by the TiVo Service and personal video recorder. Under our current policy, we do not access this data or release it to third parties. Privacy concerns, however, could create uncertainty in the marketplace for personal television and our products and services. Changes in the privacy policy could reduce demand for the TiVo Service, increase the cost of doing business as a result of litigation costs or increased service delivery costs, or otherwise harm our reputation and business."

TiVo has received generally favorable press coverage, including a March 18 segment on "60 Minutes." An Aug. 13, 2000, New York Times Magazine story on TiVo made this observation about the promise of its technology: "While the viewer watched the television, the box would watch the viewer. It would record the owner's viewing habits in a way that TV viewing habits had never been recorded."

■ Information Gathering by the TiVo Device

During TiVo installation, the installer connects the TiVo unit to a cable TV feed or other video source, a television, and the home phone line. The home user then controls the television exclusively through the TiVo

remote control.

During an automatic daily phone call, the TiVo device gets a new copy of the most recent TV schedule from computers at TiVo headquarters. But during the same phone call, the TiVo device also transmits information to TiVo headquarters. At least two different types of information are transmitted: a diagnostic log file and a viewing information file.

■ The Diagnostic Log File

The diagnostic log file (a "syslog") contains various debugging and system status reports, such as memory consumption, user interface response time, modem communication records, enclosure temperature, and enclosure fan speed. Here are some sample lines from the diagnostic log:

```
Jan 13 06:29:44 (none) fancontrol[54]: The current board
temperature is 41
Jan 13 06:29:44 (none) fancontrol[54]: Setting the fan speed to 9
Jan 13 06:39:44 (none) fancontrol[54]: The current board
temperature is 37
Jan 13 06:39:44 (none) fancontrol[54]: Setting the fan speed to 0
Jan 13 17:42:10 (none) LogTime[94]: WatchTV: change the
channel: 0.015 sec
Jan 13 17:42:55 (none) LogTime[94]: Lineup: update the OSD:
0.949 sec
Jan 13 17:42:56 (none) LogTime[94]: Lineup: arrow up/down:
0.011 sec
Jan 13 17:42:57 (none) LogTime[94]: Lineup: arrow up/down:
0.009 sec
```


Even though the diagnostic log does not indicate which shows are being watched by the home viewer, entries like the last lines above do indicate that someone was manipulating the TiVo remote control at 5:42 pm on January 13.

The diagnostic log contains an enormous amount of information about the TiVo's device's internal processes. On one day, for instance, we observed almost 100 pages of information being deposited in the diagnostic log. We are not aware of any other consumer device that routinely transmits so much operational information to corporate headquarters.

A sample diagnostic log file is available in the Related Links section of this advisory.

■ The Viewing Information File

The viewing information records transmitted to TiVo headquarters look like this in raw form:

```
980389559|WatchTV|recorded|KDVR|3134603|980127000
```

The two numbers beginning with 980 are timestamps that count the number of seconds that have elapsed since midnight on January 1, 1970, and the number 3134603 identifies a specific television program. This record can be interpreted as:

"On Wednesday, January 24 2001 at 7:26pm, the home viewer began watching an episode of King of the Hill that was originally recorded on Sunday, January 21 2001 at 6:30pm on the KDVR station."

We also observed TiVo transmitting viewing records such as these:

```
980389520|WatchTV|live|IFC|27666|980384400  
980389546|MWEvent|tyTivo  
980389550|MWEvent|tySurfDown  
980389565|MWEvent|tyVolumeUp
```

The first line above reveals the home user tuning in the movie "My Own Private Idaho" on the Independent Film Channel (IFC), and the three lines below it correspond directly to pushing buttons on the TiVo remote control.

■ Viewing Information: Anonymous or Not?

When the viewing information file is transmitted to TiVo headquarters, it is deposited into a common area for gathering subscriber data. The TiVo unit does not explicitly attach the viewer's identification number to the file in this step, and this is partially why TiVo considers the information "anonymous".

TiVo describes this practice as a "very sophisticated mechanism" to ensure that the subscriber information cannot be linked with the "anonymous" viewing information. However, the viewing information file is nonetheless transmitted during a session identified by the home viewer's TiVo serial number. In fact, this serial number is transmitted multiple times during the single phone call. TiVo receives all of the information necessary to attribute the viewing information to a particular subscriber during this phone call but gives no indication of this fact in any of its documentation. Therefore, the home viewing information can only be truly anonymous when TiVo headquarters intentionally treats it as such. TiVo's current "anonymization" procedure does not change that fact.

■ Technical Details: Transferring the Information

TiVo's actual file transfer mechanism works as follows. During the daily phone call, TiVo headquarters chooses a name for the receiver's viewing information file and a name for the diagnostic log and transmits both to the TiVo unit. If one of these file names includes the word "RANDOMIZE", then the TiVo unit replaces that word with a large randomly chosen number. This allows TiVo headquarters to decide whether a file's name will include identifying information or not. The TiVo unit then begins transferring the two data files to the TiVo headquarters computer, saving them under the chosen names.

Under normal operation, TiVo headquarters includes the word "RANDOMIZE" in the viewing information file name and the TiVo unit serial number in the diagnostic log file name. This means that the viewing information file name will not immediately identify a subscriber, but the diagnostic log file name will.

For example, we first saw TiVo headquarters choose and transmit the names

```
/TivoData/bprv/20010124/000000.RANDOMIZE.80208.bz2  
/TivoData/bpub/20010124/184023.00840336485942.log.bz2
```

and then we observed our TiVo unit depositing files onto the TiVo server computer with the names

/TivoData/bprv/20010124/000000.C41CF33D1DC7F401.80208.gz
/TivoData/bpub/20010124/184023.00840336485942.log.gz

The first file, which contains the viewing information, is sent to the "private" (bprv) directory and stored under a name that only identifies the subscriber's zip code. But the diagnostic log file goes to the "public" (bpub) directory, and is stored under a name that contains a TiVo unit's serial number – in this case 00840336485942. Both files clearly show the date of the transfer, 2001 01/24.

Since both files are transferred to the same computer during the same phone call, this computer can easily reattach the subscriber ID to the viewing information file. In addition, it is standard computer security practice to keep a record of every FTP file that is transferred. These FTP records normally indicate both the name of the file transferred and the IP address of the computer (or TiVo unit) that initiated the transfer. Just by consulting this log file – even months or years after the fact – TiVo could easily reconstruct the subscriber ID that deposited a viewing information file. (We have no direct way to tell if FTP logging is on or off, but TiVo representatives indicated that FTP logging is disabled.)

■ TiVo's Privacy Disclosures

We found three privacy statements that concern our Philips TVR312. Two of them are in the manual that accompanied the Philips TiVo unit, and the third is on the TiVo Web site.

First disclosure. The first mention of privacy appears about halfway through the manual on page 56 as an answer to a frequently asked question:

Will the TiVo Service collect information about my viewing habits? There has been quite a bit of misplaced hype about TiVo collecting viewing information. At TiVo, we absolutely respect and guard your right to privacy. We have a privacy policy that maintains complete viewer confidentiality. Unlike the Internet, all of your personal viewing information remains on your PTV receiver in your home. TiVo has created a very sophisticated system with both protection and customization for our viewers in mind. It is TiVo's promise to you that you will always maintain control over your own personal information. For more information see the TiVo Privacy Promise, pages 133-134.

This first disclosure is the most accessible to users because it occurs in

the main text of the user manual. Users reading it are likely to understand that TiVo is offended at the notion ("misplaced hype") that TiVo might even be suspected of "collecting viewing information." Then stating that "all of your personal viewing information remains on your [TiVo] receiver in your home", TiVo sends a signal that any such suspicion is totally unfounded because viewing information never leaves the TiVo device.

It is important to observe that TiVo does not include their unusual definition of "personal viewing information" at this point. Therefore, a reader might rationally conclude at this point that absolutely no information about TV viewing ever leaves the TiVo device under the reasonable assumption that all information about the shows viewed at home is "personal" – i.e., due to personal action. For these subscribers, the first disclosure has the effect of limiting interest in the second and third disclosures.

Second disclosure. This disclosure begins with a preamble on page 132:

Privacy

Your Philips PTV Receiver is powered by the TiVo Service. Philips and TiVo are committed to protecting the privacy of your personal information. TiVo has established a strict privacy policy for the TiVo Service, which is published on TiVo's website, www.tivo.com. We have reprinted it here as well for your convenience.

The privacy disclosure following this statement in the manual may be a reprinting of a policy that was posted on TiVo's Web site at one time, but when we purchased the TiVo unit in late 2000, the TiVo manual policy and the Web site policy were no longer the same. The Web site privacy policy was already much more detailed and explicit than anything printed in the TiVo manual.

TiVo presents the main text of this second privacy disclosure on page 133:

TiVo's Privacy Promise to You

Please read this policy document carefully [...]

1. Personal Viewing Information. Your Personal Television (PTV) Receiver keeps track of viewing information – the programs you ask it to record and any time buttons on the PTV Remote Control, such as "Thumbs Up" or "Thumbs Down," are pressed. Your PTV

Receiver uses it to tune, schedule, record, and recommend programs for you. Personal viewing information which identifies you or your household's TV viewing practices belong to you, and no one outside your home, not even the TiVo staff or any of TiVo's computer systems, will have access to it without your prior consent.

2. Anonymous Viewing Information. Anonymous viewing information is viewing information that does not identify you as an individual or your household. This means it is not linked to you or your household in any way. We may use anonymous viewing information to benefit TiVo and strengthen our efforts to encourage the television industry to better serve the interests of TiVo subscribers. If you don't want anonymous viewing information used in any way, simply tell us by calling our toll-free telephone number and it will not be.

[...]

Please note: Our privacy policy may change over time. In addition to posting any changes on our web site, www.tivo.com, we will provide or send a notice to each TiVo customer before any changes are implemented. You have our commitment that, regardless of any changes that might be made in the future, you will remain in complete control of your personal viewing information. Use of your PTV Receiver or TiVo Service will signify your acceptance of these privacy policies.

The statement in point 1 that "[none] of TiVo's computer systems will have access to [your personal information] without your prior consent" appears to be incorrect. As previously described, the TiVo headquarters computer receives viewing information and the subscriber identity during the same phone call.

TiVo introduces "personal" and "anonymous" viewing information for the first time in this second disclosure. Only now can subscribers who also read the first disclosure suspect that all of its 5 sentences of reassurance must have concerned only "personal" information, since apparently an opt-out action is required to limit the use of "anonymous" information, while the first disclosure did not mention any required user action.

The text in point 2 above is the complete description of "anonymous" viewing information in the TiVo manual, and it offers an extremely vague statement of the intended use of the information. In particular, it does not disclose that this "anonymous" information is transmitted routinely to TiVo headquarters. The only possible indication that "anonymous" information might be transmitted comes from the juxtaposition between point 1 declaring that "personal" information is not transmitted, and the lack of a similar statement in point 2.

The phrase "Personal viewing information which identifies you or your household's TV viewing practices belong to you" is TiVo's clearest attempt to define "personal viewing information" in the TiVo manual. But equating "personal information" with the industry-standard term "personally identifiable information" is incorrect and likely to mislead readers. According to standard dictionaries, "personal" means "pertaining to or concerning a particular person", not "explicitly labeled with a subscriber identity".

Neither the first nor the second disclosure even mentions the existence of the diagnostic log.

Third disclosure. The second disclosure refers its users to the TiVo Web site for the third privacy statement. Forcing the user to hunt through a Web site for a more current statement is an unfair practice: TiVo is not itself a Web browser, nor does it otherwise require the use of the Web. Users without Web access have no practical means to obtain this third disclosure.

Those who do have Web access must start at www.tivo.com and pick the correct choice from the more than ten links visible on this page. Only some customers will choose "Customer Support" in order to continue their search for the third disclosure, because no instructions are given anywhere that this is the correct way to proceed. Users can then select "Privacy Promise" and then "Personal Video Recorder With TiVo Service Privacy Promise" in order to begin viewing the third statement. The third statement itself is split over four Web pages. Only determined customers will have the patience to click through these seven pages total in order to read the third disclosure.

The third disclosure is more extensive and much longer than the first two. It is consistent with the paper-based policy where they overlap, but is more carefully written and volunteers much more information about TiVo's privacy and business practices. For example, the Web-based policy states clearly that the "anonymous" viewing log and the diagnostic log are indeed transmitted from the TiVo device to TiVo headquarters.

Although the third disclosure includes more information, it also introduces some new problems. Section 9.4 reads in part:

This Privacy Promise constitutes the entire agreement, and replaces and supersedes all prior agreements, between you and TiVo concerning the subject matter discussed in this Privacy Promise. Use of your Recorder with TiVo will signify your acceptance of this Privacy Promise.

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It is hard to believe that users without Web access truly signify their acceptance of this disclosure, which they have not read, simply by using the device under the assumption that the privacy policy included in its manual was complete. In addition,

- Section 5.1 claims that the diagnostic log contains "no Contact Information whatsoever", even though we observed that the diagnostic log is deposited under a name that includes the TiVo device's serial number – and this links directly to a customer's account.

- Even the third disclosure does not state that the diagnostic log indicates the times when the TiVo remote control was in use.

- Section 8 states that TiVo uses "industry-standard methods such as encryption to secure the communication of Subscriber Information from your Receiver to TiVo". However, we observed no encryption protecting the viewing information or the diagnostic log.

- Section 9.1 declares that modifications to the stated privacy policy will be announced and described via the TiVo messaging system – i.e., TiVo subscribers will be alerted by their television that a new privacy policy has been issued. However, we never received notice of the Web-based third disclosure after installing our TiVo unit. Since this third privacy statement is substantially different than the first two, we should have been alerted to its presence.

- Not even the third disclosure mentions that TiVo modifies its receivers' software from time to time. In other words, TiVo Inc. changes the behavior of the purchased device without obtaining the consent of the purchaser. This has security, reliability, ownership, and privacy implications.

In summary, the first disclosure appears to say that no viewing information is transmitted and directs users to the second disclosure. The second disclosure indicates that anonymous viewing information exists, but says nothing useful how it is used in practice, and directs users to the third disclosure if they have Web access. The third disclosure is explicit and well written but introduces some new errors.

■ Legal Concerns

Given these conflicts between the stated privacy policies and their actual practices, as well as potential practices, TiVo would be wise to consider its potential legal exposure for breach of contract, deceptive trade practices, invasion of privacy, and other legal theories, according to an analysis by Privacy Foundation legal experts. In addition, the information in the diagnostic log named with a TiVo serial number may

It is hard to believe that users without Web access truly signify their acceptance of this disclosure, which they have not read, simply by using the device under the assumption that the privacy policy included in its manual was complete. In addition,

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be subject to disclosure in response to a subpoena issued by a prosecutor in a criminal proceeding or by a litigant in a civil proceeding.

■ Recommendations to TiVo Inc.

- TiVo should resolve the discrepancies between its stated policies and its actual practices as documented in this advisory. Until it adopts a long-term solution, TiVo can and should immediately stop collecting diagnostic logs and viewing information from all of its subscribers.
- If TiVo wants to collect viewing information, it should ask for subscriber permission. New TiVo owners must already go through a lengthy "guided setup" that asks many questions about their audio, video, and telephone equipment in order to properly configure the TiVo unit. TiVo could easily ask for user permission to gather viewing information during this phase. The current practice of assuming that the subscriber, simply by turning on the TiVo box, has consented to the Web-based privacy policy – while TiVo complains of "misplaced hype" – is confusing, at best.
- Users should be able to change their privacy preferences at any time through the TiVo user interface. Some subscribers may, in fact, want their viewing information captured in order to communicate the popularity of a program – or to participate in an opt-in research study with Nielsen, a TiVo partner.
- TiVo should tell customers what happens in straightforward language. "At night, we get a list of the shows you recorded and watched" is much clearer than "We may use anonymous viewing information to benefit TiVo and strengthen our efforts to encourage the television industry to better serve the interests of TiVo subscribers."
- TiVo should not claim that personal viewing information "remains on your receiver," because this suggests that the viewing information is never transmitted elsewhere. In fact, all of the constituent pieces of the personal viewing information are transmitted to TiVo's computers.
- TiVo should disclose that their customer-identified diagnostic log can indicate when the TiVo remote control was in use.
- TiVo should obtain subscriber consent before updating the software in their subscribers' TiVo units.

■ Recommendations to TiVo Subscribers

TiVo permits its subscribers to disable the collection of viewing information and diagnostic logs by calling TiVo toll-free at 1-877-367-

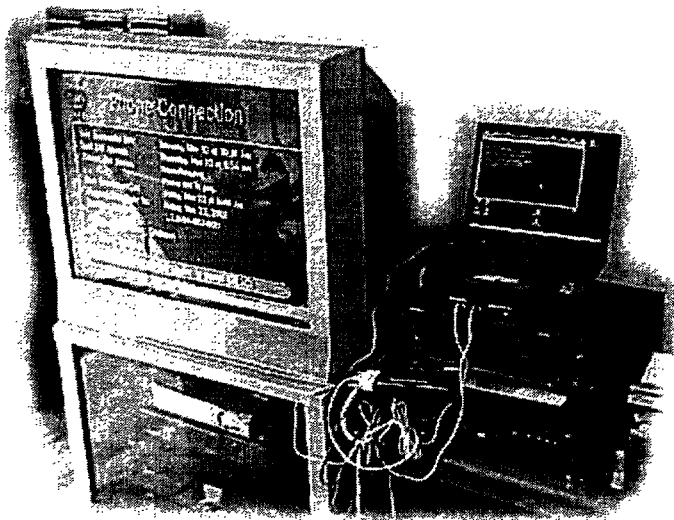
8486 (1-877-FOR-TIVO).

■ Listening to TiVo's Transmissions

In order to prepare this report, we simply monitored calls made on our own phone line. We never even opened the TiVo case.

Roughly speaking, we constructed a modem sniffing station consisting of two phone jacks connected to modems on a standard laptop computer. We then connected the TiVo device's telephone jack to the station's incoming telephone jack, and we connected the station's outgoing jack to the real phone system. When the TiVo device made a telephone call, our system passed through the contents of the phone call undisturbed while saving a copy of everything transmitted over the line. We then analyzed the captured data, which led to the findings in this advisory.

We plan to describe our modem sniffing platform more fully in a future report.



■ Acknowledgments

Julie Rech, Phil Gordon, Stephen Keating, Richard M. Smith, and Prof. John Soma contributed to this report. Matt Blaze of AT&T Research originally suggested the modem sniffing approach.

■ Related Links

[A Sample TiVo Diagnostic Log File](#)

We captured this diagnostic log on January 13, 2000. It contains almost

100 pages of text (6543 lines, 455KB), all concerning the TiVo unit's operation on that day. We have used asterisks (*****) to replace some possibly sensitive information in the log.

[The Official TiVo Web Site](#)

[The TiVo Area Within the AVS Forum](#)

[The TiVo Hacking Web Site](#)

[Boom Box, The New York Times Magazine, 8/13/00](#)

[The Spy Interactive Web Site](#)

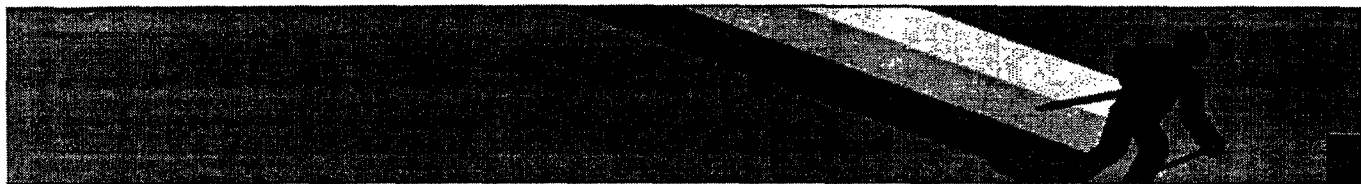
[New Bill Targets TV Privacy, Wired News, 2/23/00](#)

[Is Your TV Set Watching You?, Richard's Tipsheet, 1/16/01](#)

[TOP OF PAGE](#)

EXHIBIT B

▼ advertisement



Privacy pundits slam TiVo for "mixed message"

By Richard Shim

Staff Writer, CNET News.com

March 26, 2001, 3:00 PM PT

<http://news.com.com/2100-1040-254766.html>

You're watching TV, but is someone watching you?

On Monday, the Privacy Foundation released a report accusing digital video recording company TiVo of misleading subscribers. The Denver-based nonprofit group claims that TiVo's service can gather more information about its subscribers' viewing habits than the company is letting on.

The group also criticized TiVo for displaying a more explicit privacy policy online than it does with the printed materials included with the set-top boxes.

"These guys are sending a mixed message," said Richard Smith, one of the authors of the report. "And when they do admit it, they bury it in a legal statement that consumers don't read."

Jim Barton, TiVo's chief technology officer, acknowledged that the company does collect information about what its subscribers watch but that—contrary to the Privacy Foundation findings—it strips names out of the data. Barton said the company updated its privacy policy in September to reflect the change.

TiVo has plans to sell the anonymous information to networks and advertisers but has yet to do so, Barton said.

He added that the report's authors must have examined a set-top box manufactured before the policy update. Since the privacy policy was changed last fall, he said, all the manuals that come with set-top boxes have been rewritten.

A digital-video recorder is a set-top box that can perform functions similar to those of a VCR, but instead of using a videotape, shows are stored on a hard disk drive. The set-top boxes can also perform other functions, pause live programming, and schedule the recording of future shows.

Set-top boxes that use TiVo's recording service connect via a phone line to a server to download a schedule of shows and times. The service can even suggest which shows the viewer would like based on previous selections.

It's when the boxes call the server that information about the subscriber's viewing habits are transmitted to TiVo headquarters in Alviso, Calif., according to the Privacy Foundation.

P.J. McNealy, a Gartner analyst, defended TiVo.

"No one wants to be a target of the Privacy Foundation, and TiVo certainly doesn't want to be mentioned as a company that abuses people's information. But they haven't done anything wrong," McNealy said.

After initial high expectations from Wall Street and industry research analysts, interest in TiVo has cooled consumers have not taken to stand-alone set-top boxes. TiVo has signed up 154,000 subscribers so far.

Still, digital video recording is growing in popularity as an additional feature to other TV services, gradually finding its way into rival set-top boxes, such as DirecTV receivers and upcoming AOLTV boxes.

Go to [Front Door](#) | [Personal Technology](#) | [Search](#) | [One Week View](#)

EXHIBIT C

**NEWSBYTES® House Dems Ask FTC To Investigate TiVo**

By Brian Krebs, Newsbytes.
WASHINGTON, DC, U.S.A.,
02 Apr 2001, 4:45 PM CST

****House Dems Ask FTC To Investigate TiVo 04/02/01 WASHINGTON, DC, U.S.A., 2001 APR 2 (NB) -- By Brian Krebs, Newsbytes. Leading Democrats on the House Commerce Committee have asked the Federal Trade Commission (FTC) to launch an investigation into allegations that TiVo Inc. violates its own privacy policy by collecting information on its customers' television programming selections.



In a letter to FTC Chairman Robert Pitofsky, Commerce Committee Ranking Democrat John Dingell, D-Mich., said he and other lawmakers were concerned about the charges, which emerged as the subject of recent study issued by the Privacy Foundation.

TiVo manufactures and markets "personal video recorders" that can pause live TV and save selected television shows to hard disk. The study accused the company of violating its own privacy policy by tracking its users' viewing habits and storing that information in a central database.

"The simple fact is that most consumers are not comfortable with having someone or something watch them while they watch television," reads the letter, also signed by Telecommunications and Internet Subcommittee ranking member Edward Markey, D-Mass., and Edolphus Towns, D-N.Y., ranking member on the Subcommittee on Commerce, Trade, and Consumer Protection.

The lawmakers said the charges were severe enough to warrant investigation under the FTC's "unfair and deceptive practices" statute, and asked the commission to investigate the allegations and report back to Congress on their findings.

TiVo maintains it has never collected personal information about its viewers without their express consent. Even so, the company offers its 150,000 users a toll-free number to call to opt out of all data collection.

The lawmakers' letter is on the Web at:
http://www.house.gov/commerce_democrats/press/107ltr30.htm

TiVo's statement on the matter can be found online at: http://www.TiVo.com/home_flash.asp

Reported by Newsbytes, <http://www.newsbytes.com>

16:45 CST

(20010402/WIRES ONLINE, LEGAL, BUSINESS/TIVO/PHOTO)

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EXHIBIT D

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Privacy Policy

Your Privacy is Important to Us

Personal television and digital video recording are radically improving the way you watch TV. You are now in charge of your own television viewing experience.

Along with that, we want you to know how important your privacy is to us.

At SONICblue™, we believe privacy is a right, not a privilege. In other words, you should expect us to protect your privacy, and you should never have to worry about it. We believe that a strict and clear-cut privacy policy is a key ingredient in growing our company and the personal television industry. This Privacy Policy is our pledge to safeguard your privacy while providing you with the best television viewing experience possible.

This is our Privacy Credo:

1. We see your privacy as a right and not just a privilege.
2. We respect your privacy and are committed to maintaining the privacy of your personal information.
3. We will tell you what information we collect about you and how we use that information.
4. We will give you a choice as to how your personal information will be used.

Sources of Information To best understand this Privacy Policy, please keep in mind that we gather information from three different sources:

1. www.sonicblue.com Web site.
2. Digital video recorders featuring the ReplayTV Service™. These recorders are sold under brand names like Panasonic and also under the ReplayTV brand. All of these recorders feature our ReplayTV Service.
3. Telephone. You may call us and provide us with information.

Types of Information

It is important to know that we collect different types of information. We use each in a different way, as explained below in the Q&A section of our Privacy Policy. The terms defined below are used throughout our Privacy Policy:

1. "Personally Identifiable Information" is private data about you as an individual. Examples of this data would be your name, address, telephone number, email address, and other personal information that identifies you as you. We call this "Personal Information" for short.
2. "Anonymous Information" is information about how you use our Web site and ReplayTV Service without connecting it to your name, address, or other Personal Information. For example, Anonymous Information may describe how many people viewed a particular page on our Web site or how many people recorded the program "Friends" on their ReplayTV digital video recorders, without connecting that Information to the identities of those people.
3. "Technical Status Data" can be classified either as error events and maintenance status events.

Privacy Policy Q&A

What information does SONICblue collect from www.sonicblue.com Web site?

When you visit certain areas of www.sonicblue.com, we may ask you to register by providing Personal Information. For example, if you buy a product, enter a contest, or subscribe to a mailing list from our site,

we will ask you for certain Personal Information in connection with that transaction.

We also collect Anonymous Information from the Web site, including which pages you look at and other similar data. As do most Web sites, www.sonicblue.com uses "cookies." A cookie is a small data file that a Web site can send to your browser to be stored automatically on your computer. Cookies are commonly used to track your visits to a site so you don't have to log in on every page and to analyze how you use the site. This allows Web site operators to serve you better.

When you register your ReplayTV unit at www.sonicblue.com, we collect Personal Information. Our practices regarding the collection and use of this information are described below in the sections about your digital video recorder usage.

How does SONICblue use the information it collects from the www.sonicblue.com Web site?

We may use Personal Information collected through the Web site to complete a transaction you request. If you purchase a ReplayTV product, the Personal Information collected for that transaction will be used to fill your order, get the product to you and bill you correctly. SONICblue may also use your mailing address, telephone number or email address to alert you to special offers, updated information and new services. If you don't want SONICblue to contact you, you may opt-out as discussed in the next question and answer below.

Anonymous Information collected through our Web site is used for maintenance, monitoring and marketing uses, but Anonymous Information will not be linked to you without your permission.

What choices do I have regarding the collection and use of information from the www.sonicblue.com Web site?

When you submit Personal Information at our Web site, you can opt-out of receiving information from SONICblue about ReplayTV and related products, promotions, and services. You may also set your Internet browser to reject cookies to limit the collection of Anonymous Information from our Web site, but this may affect your ability to use some parts of our Web site.

What information does SONICblue collect about my digital video recorder use?

When you purchase a ReplayTV digital video recorder, we ask you to register the product so we can provide you with the best possible service. You may register online at the www.sonicblue.com Web site or by telephone. During registration, we ask you for Personal Information, including your name, address, phone number, email address, and the serial number of your ReplayTV digital video recorder.

The ReplayTV digital video recorder is connected to your television and an Ethernet connection. During system setup and registration, we learn about how you have connected your ReplayTV digital video recorder to your entertainment system and the programming signal sources available to you (antenna, cable, and/or satellite). We also learn about where you are located, and use this information to determine what television channels and schedule are available to you. Each day, the ReplayTV digital video recorder contacts SONICblue to download a current TV schedule for you.

Once your ReplayTV digital video recorder is set up and registered, it collects certain Anonymous Viewing Data, such as which programs you record, which features you use, and other similar data about your use of the ReplayTV Service. If other people in your household use your ReplayTV recorder, Anonymous Viewing Data will also be collected as a result of their use of the unit. The ReplayTV digital video recorder stores this Anonymous Viewing Data on its hard drive under an automatically generated identification number that will not be linked to your name or other Personal Information without your permission. During the daily download of your TV schedule, the collected information is transmitted to SONICblue and is anonymously stored in a secure server and is not associated with any Personal Information.

How does SONICblue use the information it collects about my digital video recorder use?

Personal Information collected during registration of your ReplayTV digital video recorder may be used for diagnostic purposes. We can use it, for example, to see if your ReplayTV unit is working properly. We can also use it when you contact our Customer Care agents so they can help you with any service-related problems, and for warranty eligibility and fulfillment purposes. Again, this information is not linked to Anonymous Information without your permission.

Anonymous Viewing Data is used to tailor the ReplayTV Service to your preferences, including providing you with advertisements that may be of interest to you, and to provide service enhancements to you. With your permission, we may also use Anonymous Viewing Data to diagnose and correct problems with your digital video recorder or your ReplayTV Service. In keeping with this Privacy Policy, Anonymous Viewing Data is not linked to you, and will not be linked to you without your express permission.

What choices do I have regarding the collection and use of information about my digital video recorder use?

Registration of your ReplayTV digital video recorder is not required to use the unit.

From time to time, we may send all of our customers information about our products and services that we consider essential to providing you the ReplayTV Service, including information about software upgrades, changes to the service, technical or administrative issues, legal matters, or other similar information. Users of our products and services are not able to opt-out of these announcements. At present, users also cannot opt-out of the collection of Anonymous Viewing Data.

Does SONICblue share my information (gathered from either my use of the www.sonicblue.com Web site or digital video recorder) with any third parties?

SONICblue will not share your Personal Information with third parties without your consent, except in the very limited circumstances outlined in the next question and answer below. Your Personal Information is not otherwise sold, marketed or shared with third parties without your permission.

Anonymous Information, including Anonymous Viewing Data, may be shared with third parties for analysis or marketing purposes. For example, this information may be provided to advertisers or marketers who may use it to target advertisements to your particular interests. Because it's anonymous, this information is not linked to you, and will not be linked to you without your express permission.

Are there any special circumstances that may require my information (gathered from either my use of www.sonicblue.com Web site or its digital video recorder) to be shared with third parties?

SONICblue may disclose Personal or Anonymous Information if required to do so by law or in the good faith belief that such action is necessary or appropriate to conform to the law or comply with legal process served on SONICblue, to protect and defend the rights or property of SONICblue, the ReplayTV Service or our viewers, whether or not required to do so by law, or to protect the personal safety of our viewers or the public. SONICblue reserves the right to contact appropriate authorities and disclose Personal or Anonymous Information to them at its discretion when it appears that individuals using our products or services are engaged in activities that are illegal or violate the ReplayTV Service Terms of Service.

Should SONICblue merge with or be acquired by another company, or if the business unit providing your service were sold to another company, then customer information maintained by SONICblue, including Personal and Anonymous Information, may be transferred to and used by the resulting combined company.

From time to time we may also share Personal Information with third parties who perform certain services and functions on our behalf. These parties only have access to the Personal Information they need to perform their functions and we require them to use the information only in connection with the services they provide for us.

Can I correct the information collected about me?

SONICblue believes in and supports your right to access and edit the Personal Information you have provided us. To do so, simply contact SONICblue at 800-933-5899 and we will make changes that you request.

Is all of my information kept securely?

SONICblue has security measures in place that are designed to protect your information. All Personal and Anonymous Information is stored on physically secured servers. Access to this information is strictly limited to individuals with a legitimate reason to have access and who have signed agreements that prohibit the unauthorized use or disclosure of such information. In addition, all of SONICblue's stored information is firewall protected against unauthorized "hacks" into our systems. While we cannot guarantee that loss, misuse or alteration of your data will not occur, we work hard to prevent such occurrences.

Does SONICblue collect personal information about children?

We are very concerned about the safety and privacy of children. Therefore, SONICblue will not knowingly collect Personal Information from anyone under the age of 13.

Does SONICblue collect personal information about the shows that I share with other ReplayTV 4000 users or shows that I record?

No, when sending a show from one ReplayTV 4000 to another, the ReplayTV Service does not track or receive notification of which show is being sent or which shows you record.

How can I find out about changes to this Privacy Policy?

We will update this policy as our business and services expand and change. We will update this policy to provide you with information about how we treat Personal Information collected through this new service.

Updates to this policy will be posted on our Web site, and sent to your ReplayTV digital video recorder, but in most cases will not be sent to you directly. We encourage you to review this policy periodically to review any changes that have been posted.

One thing that will never change at SONICblue is our commitment to your privacy.

What if I have other questions?

If you have any questions or comments about our use of Personal Information, Anonymous Information or about this Privacy Policy, please contact us at 800-933-5899 or via e-mail at privacy@replaytv.com. We will be happy to give you more information.

If you have a complaint about our use of Personal or Anonymous Information, please let us know. We will promptly investigate and will comply fully with the legal and regulatory supervisory authorities responsible for enforcing our adherence to the privacy principles stated above.

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