UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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TWENTIETH CENTURY FOX FILM CORPORATION et al.,

Plaintiffs,

- against -

CABLEVISION SYSTEMS CORPORATION et ano,

Defendants.

- - - - - - - - - - - - - - - - - - - -x

THE CARTOON NETWORK LP, LLLP et ano,

Plaintiffs,

- against -

06 Civ. 3990 (DC)

OPINION

06 Civ. 4092 (DC)

Cablevision has not obtained permission from plaintiffs, the owners of the copyrighted programs, to reproduce and transmit the programs through its proposed RS-DVR. It contends that a license is not required because the customer, not Cablevision, chooses the content and records the programs for personal viewing. It argues that, under Sony Corp. v. Universal City Studios, Inc., 464 U.S. 417 (1984), a company cannot be liable for infringement merely because it supplies Betamax recorders, video cassette recorders ("VCRs"), or DVRs to consumers to record television programs for in-home, personal viewing, and it further contends that its RS-DVR is no different from these traditional devices.

In these related cases, plaintiffs sue Cablevision and its parent, CSC Holdings, Inc. ("CSC"), for copyright infringement, seeking a declaratory judgment that Cablevision's RS-DVR would violate their copyrights and an injunction enjoining defendants from rolling out the RS-DVR without copyright licenses. Defendants counterclaim for a declaratory judgment holding that the RS-DVR would not infringe on plaintiffs' copyrights. The parties' cross-motions for summary judgment are before the Court.

Plaintiffs' motions are granted and defendants' motion is denied, for I conclude that Cablevision, and not just its customers, would be engaging in unauthorized reproductions and transmissions of plaintiffs' copyrighted programs under the RS-DVR. Indeed, the RS-DVR is not a stand-alone machine that

sits on top of a television. Rather, it is a complex system that involves an ongoing relationship between Cablevision and its customers, payment of monthly fees by the customers to Cablevision, ownership of the equipment remaining with Cablevision, the use of numerous computers and other equipment located in Cablevision's private facilities, and the ongoing maintenance of the system by Cablevision personnel. Accordingly, judgment will be entered in favor of plaintiffs.

STATEMENT OF THE CASE

A. The Facts

As the parties agree, the facts are largely undisputed. (Tr. 9, 194).[1]

1. The Parties

Plaintiffs, counterclaim-defendants, and third-party defendants are The Cartoon Network LP, LLLP; Cable News Network LP, LLLP; Turner Broadcasting System, Inc.; Turner Network Sales, Inc.; Turner Classic Movies, L.P., LLLP; Turner Network Television LP, LLLP; Twentieth Century Fox Film Corporation; Universal City Studios Productions LLLP, Paramount Pictures Corporation; Disney Enterprises, Inc.; CBS Broadcasting Companies, Inc.; and NBC Studios, Inc. (collectively, "plaintiffs"). Plaintiffs own the copyrights to numerous copyrighted entertainment programs, including movies, television

[1] "Tr." refers to the transcript of the hearing and oral argument on October 31 and November 1, 2006.

series, news and sports shows, and cartoons, which are shown on television and also used (or licensed for use) in other media, including the Internet, DVDs, and cellular phone technology. Defendants, counter-claim plaintiffs, and third-party plaintiffs are Cablevision and CSC ("defendants"). They own and operate cable television systems, primarily in the New York City metropolitan area. Cablevision provides its customers with a wide variety of programs, including programs owned by plaintiffs, pursuant to negotiated and statutory (i.e., required by law) licenses or "affiliation agreements." (See, e.g., Turner Exs. 25, 26).

None of the licenses between plaintiffs and Cablevision authorizes Cablevision to transmit or reproduce plaintiffs' copyrighted programming through the RS-DVR. (Tr. 199-201).

2. Cable Television

Television involves the transmission of audio and video signals -- "a moving picture, plus sound." (Horowitz Report ¶ 16). "Broadcast television" is transmitted over public airwaves and can be received with only a television set and an antenna. (Id. ¶ 30). "Cable television" is transmitted via a coaxial cable that is connected to a television set, usually through a "set-top box" provided by a cable company. (Id. ¶ 31). Cable companies offer customers, for a fee, a number of programming channels, including basic cable (e.g., TNT and Disney Channel) and premium cable (e.g., HBO and Showtime) channels. (Id. ¶ 32; Fox Statement of Facts ("Fox SOF") ¶¶ 2-4). Basic and premium

cable channels, along with broadcast television stations, are linear channels, meaning that they televise programs sequentially at specified times of the day. (Id. ¶ 4).

i. Delivery of Cable Programming

Traditionally, television signals were transmitted in analog form. (Horowitz Report ¶ 19). In other words, the signals were transmitted as a series of continuous waves. (Id.). Today, television signals are increasingly delivered in digital form. (See id. ¶ 35). Digital signals are transmitted as compressed data in the form of binary digits, or "bits." (Id. ¶¶ 19-20, 38). The number of bits that can be sent in a second is known as the "bitrate." (Id. ¶ 41). Digital signals allow for a greater variety in television programming -- because more signals can be transmitted in the same space -- as well as interactive services and, often, better audio and image quality than analog television. (Id. ¶¶ 39-42). The RS-DVR would be offered as part of Cablevision's digital cable service.

Digital cable delivery starts with programming owners sending feeds of their content to the cable company, which collects the feeds at a "head-end," a central facility that houses much of the software and hardware necessary to operate a cable system. (Hartson Report ¶ 18; Mitchko Decl. ¶ 12; Tr. 18). For linear channels, the cable company collects all of the feeds into an "aggregated programming stream" ("APS"). (Tr. 18). The

APS is composed of packets of data, each 188 bytes in size.[2] (Id.; Horowitz Report ¶ 46). Each packet is tagged with a "program identifier" ("PID") indicating the program to which it belongs. (Horowitz Report ¶ 47).

The APS is sent from the head-end to customers' homes through a process known as Quadrature Amplitude Modulation ("QAM"); the devices used to accomplish this process are called QAM modulators. (Hartson Report ¶ 29). QAM converts the digital signals into radio frequency ("RF") signals, which are more robust and better suited for transmission along a cable system's coaxial cable lines. (Tr. 19-20). The RF signals are sent over the coaxial network (the "RF Distribution Network"), which routes the signals to the various "nodes" or service groups -- smaller cable systems connecting a group of homes -- comprising the cable system. (Hartson Report ¶ 31). Each node is serviced by a particular QAM modulator. (Tr. 19-21). The RF signals are typically then routed to the customer's digital set-top box. (Hartson Report ¶ 32). The packets of the APS are filtered according to their PIDs and reassembled into a single program transport stream to be decrypted, decoded,[3] and displayed. (Horowitz Report ¶ 47). To limit access to certain programming such as premium channels, the cable company encrypts the packets

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[2] One byte is equal to 8 bits.

[3] A digital television can directly receive digital signals. An analog television, however, cannot; it must have a decoding device -- e.g., a set-top box -- to convert digital signals into analog. (Hartson Report ¶ 19).

in the APS. (Id. ¶ 56). The set-top box has decryption hardware that "unlocks" the encrypted packets. (Id.).

ii. Video-on-Demand

Cable companies also provide certain services on an individual customer basis. Video-on-Demand ("VOD") is one such service. VOD allows a customer, using an on-screen menu and the remote control, to view at any time programming selected by the cable company. (Hartson Report ¶ 39; Horowitz Report ¶¶ 57-58, 60). Pursuant to licenses negotiated with the programming owners, the cable company receives programming for VOD exhibition at its head-end, where the content is stored on computers. (Hartson Report ¶ 39). The cable company delivers the VOD content on extra channel frequencies that are not being used for linear programming. (Horowitz Report ¶ 59).

VOD also requires a "reverse" channel for each customer, so that the customer can communicate with the cable company to select the desired programming and control the playback (i.e. rewind, fast-forward, and pause). (Id. ¶ 60). These playback control functions are known as "trick modes." (Gilmer Report at 10). Cablevision offers VOD to its digital cable customers, pursuant to licensing agreements it has with the programming owners. (Turner Statement of Facts ("Turner SOF") ¶¶ 24-25, 38).

3. Recording Television Programming: VCRs and DVRs

VCRs, introduced for home use more than 25 years ago, provided the first practical means for television viewers to

record programming. (Hartson Report ¶ 33; see Tr. 122-23). VCRs capture programming from television signals and record it onto magnetic tape housed in a video cassette. (Hartson Report ¶ 33). DVRs were introduced to consumers in 1999 and are increasingly being used in place of VCRs to record television programming. (Id. ¶ 34). DVRs record programming to a hard-drive based digital storage medium, rather than to a video cassette. (Id. ¶ 35).

Many cable companies offer "set-top storage DVRs" ("STS-DVRs"), which combine the function of a standard cable set-top box and a DVR. (Id. ¶ 36; see Tr. 124-25). An STS-DVR can record digital programming streams directly (i.e., without decoding them) onto a hard drive contained within the box. (Hartson Report ¶ 36). It may incorporate two tuners, allowing the customer to watch live programming on one channel and record on another, or record two channels simultaneously. (Id.). Customers with STS-DVRs use an on-screen program guide to select the programs they wish to record. (Id. ¶ 35). Once recorded, programming is stored on the box's hard drive and is available for playback. (Id.). The customer can use certain trick modes to control playback. (Id.). The amount of programming that can be stored depends on the size of the box's hard drive. (Id.).

Cablevision has offered Cablevision-owned STS-DVRs to its digital cable customers, for an additional fee, since November 2004. (Answer ¶ 18; Mitchko Decl. ¶ 6). A program may be recorded only if it is included within the tier of linear

programming for which the customer has paid (the customer's "subscription programming"). (Id.). Customers cannot, for example, use the STS-DVR to record pay-per-view or VOD programming. (Mitchko Decl. ¶ 6).

4. Cablevision's RS-DVR

i. Overview of the RS-DVR

The RS-DVR is a type of network DVR ("nDVR"). (Hartson Report ¶ 47). An nDVR stores recorded programming in a central cable facility, rather than on the hard disk of the set-top box in the customer's home. (Id. ¶ 43). The RS-DVR would store recorded programming remotely on computer servers located at Cablevision head-ends. (Mitchko Decl. ¶ 12). The RS-DVR uses various components, including: (1) a remote control -- the same one offered with Cablevision's STS-DVRs; (2) an on-screen program guide populated by data stored in a server located at the head-end -- the same interface used by Cablevision's other digital cable customers; (3) a set-top box located in the customer's home; (4) "a network of wires, relays, switches, and RF devices connecting the set-top box . . . to Cablevision's cable television system"; and (5) computer hardware and software located at Cablevision's head-ends. (Id. ¶ 13). Cablevision would charge its customers an additional fee for their use of the RS-DVR. (Answer ¶ 18).

Recorded programming would be stored on servers designed by Arroyo Video Solutions, Inc. (each, an "Arroyo server") containing multiple hard disk drives. (Mitchko Decl. ¶

14). Each customer would be allotted a specified amount of storage capacity on one of those hard drives; his or her recorded programming would be stored in that hard drive space and available only to that customer. (Id.). Cablevision determines the amount of memory allotted to each customer; initially, Cablevision contemplated allocating 80 megabytes of memory to each customer, but later decided on 160 megabytes. (Tr. 190-91).[4] A recorded program would be stored indefinitely on the Arroyo server until selected for deletion by the customer or automatically overwritten by Cablevision on a first-in, first-out basis to make room for another program. (Hartson Report ¶ 104).

As the above description makes clear, the RS-DVR is not a single piece of equipment. Rather, it is a complex system requiring numerous computers, processes, networks of cables, and facilities staffed by personnel twenty-four hours a day and seven days a week. (Tr. 182-86; see also id. at 113). Cablevision's expert estimated that some ten "boxes" would be involved for each Arroyo server. (Id. at 182-83). Plaintiffs' expert testified that the RS-DVR "service" -- or at least some of it -- was housed in a "big room" at Cablevision's facilities, approximately 60 feet by 60 feet. (Id. at 80-81). Moreover, in general a Cablevision RS-DVR customer would not be able to walk into Cablevision's facilities and touch the RS-DVR system. (Id. at 186).

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[4] In fact, Cablevision has considered offering customers -- for an additional fee -- additional storage capacity. (See Tr. 190-91; Turner Ex. 43).

As for programming content, Cablevision determines the programming that will be available for recording with the RS-DVR. (Id. at 186-87). In other words, an RS-DVR subscriber would only be able to record programming made available by Cablevision. (Id.). Cablevision has elected to make all 170 channels received by Cablevision available to RS-DVR subscribers, but that is Cablevision's decision. (Id. at 64, 186-87; see also id. at 134). As a technical matter, Cablevision could choose to exclude certain channels. Indeed, Cablevision had earlier considering limiting the RS-DVR service to twelve channels or fifty channels before deciding on all 170 channels. (Id. at 188-89; Turner Ex. 41).

ii. The RS-DVR Technology

The starting point of the RS-DVR is the BarcoNet, a closed circuit network that receives Cablevision's programming content -- the APS -- for distribution. (Hartson Report ¶ 28; Lechner Report ¶ 25; Tr. 132-36). Ordinarily, when linear programming is delivered to customers, the APS flows from the BarcoNet to the QAM modulators for real-time distribution over the coaxial network to customers. (Tr. 19). For the RS-DVR to work, however, the APS must be split off from the BarcoNet into two streams, with the second stream sent to a device called the Big Band Broadband Multimedia Router ("BMR"). (Id.; Mitchko Decl. ¶ 26). The BMR does several things. Through a process known as clamping, the BMR converts the bitrate of the stream

from the BarcoNet into one that is more efficient.[5] (Gilmer Report at 7). In the process of clamping, portions of programming are placed into the BMR's "buffer" memory. (Hartson Report ¶ 97).

An explanation of "buffers" is necessary here. All digital devices, including digital television, utilize transient data buffers, which are regions of memory that temporarily hold data. (Horowitz Report ¶ 50). This is a form of random access memory -- RAM. (Tr. 65). Data is buffered -- i.e., the data temporarily resides in these buffers -- as it moves from some source and is processed and transferred to its final destination. (Horowitz Report ¶ 50). Buffering takes place at several points during the operation of the RS-DVR, the first of which occurs when the programming stream arrives at the BMR. (Tr. 64-65).

The BMR also converts the APS into a number of single program transport streams, meaning that there is only one channel in any given stream. (Gilmer Report at 7). Additionally, the BMR converts the packets comprising these streams into larger packets known as User Datagram Protocol ("UDP") packets. (Tr. 24). This process is called "encapsulation." (Id.). Each UDP packet is assigned a port number identifying the television channel to which it belongs. (Id. at 25; Gilmer Report at 7). From the BMR, the streams of programming travel to a "switch,"

[5] The stream from the BarcoNet is variable bitrate ("VBR"), which means that the number of bits per second consumed by a particular television channel will vary. (Gilmer Report at 7). The BMR converts the VBR stream into a constant bit rate ("CBR") stream.

which simply routes the packets from one port to another. (Hartson Report ¶ 55).

The streams are then fed into the Arroyo servers -- the heart of the RS-DVR, for it is on these servers that programming is recorded and stored for later playback. (Lechner Report ¶ 2.5). Each Arroyo server can service up to ninety-six Cablevision customers. (Tr. 30, 36). The servers have two major functions: ingestion and retransmission. (Tr. 30-31). The latter comes into play at the playback stage, discussed infra. The first function involves the process by which programming is recorded. Upon receiving programming streams, the Arroyo servers "read" the streams into buffer memory. (Id. at 35; Hartson Report ¶ 56). This buffer is called the "primary ingest buffer." (Hartson Report ¶ 56; Tr. 35). Each packet of programming is stored in the primary ingest buffer for up to a tenth of a second. (Tr. 33-35, 106-10). The primary ingest buffer has the capacity to hold 6,000 packets at a time -- the equivalent of about three frames of video. (Id.; see also id. 163-64). This means that at any given time, an Arroyo server will have in its buffer memory three frames of video from each of the linear channels carried by Cablevision. (Id. at 36, 109-10). This buffering takes place automatically -- before any customer requests anything -- so that if a customer requests that a particular program be recorded, the appropriate packets can be retrieved from buffer memory and copied to the customer's hard drive storage space. (Lechner Report ¶ 2.5; Tr. 66, 184-85).

iii. Recording

An RS-DVR customer can request that a program be recorded from any linear channel within his or her subscription programming in one of two ways. (Mitchko Decl. ¶ 18). First, the customer can use the remote control to navigate the on-screen program guide and schedule a future program to record. (Id.). The customer scrolls through a list of channels and programs, then presses the "record" button. (Id.). Second, while watching a program, the customer can simply press "record" on the remote control. (Id. ¶ 19).

When the set-top box receives the record command from the remote control, it relays the command to the "Application Data Server" ("ADS") server located at the head-end. (Hartson Report ¶ 57). The ADS verifies that: (1) the customer is authorized to receive the program in question; (2) the customer has not already requested that the program be recorded; (3) the customer has available hard drive storage space; (4) the recording of the program will not result in the customer's recording more than two programs at the same time; and (5) the customer is not trying to record a program that is not within his or her subscription programming. (Mitchko Decl. ¶ 22). If any of the above criteria are not met, the RS-DVR causes an error message to be displayed on the customer's television screen with the appropriate remedial steps for the customer to take. (Id. ¶ 23).

Upon satisfaction of the above criteria, the ADS queries the "Oracle Production Server" ("OPRD"), which maintains a list of programs that have been requested for recording. (Hartson Report ¶ 58). If the program has previously been requested, the OPRD will send the "asset ID," a unique code for the program, to the ADS. (Id.). If the program has not been requested, the ADS communicates with another application so that an asset ID can be generated, by a server called the "Asset Management and Publishing System" ("AMP"), for that program. (Id. ¶ 59; Tr. 41). The AMP directs the newly created asset ID to the ADS, which notifies the OPRD. (Hartson Report ¶¶ 60-61). The asset ID is then added to the OPRD's list of programs to be recorded. (Id. ¶ 61). Once the ADS has the asset ID for a program, it communicates with the "Vitria" server. (Id. ¶ 62; Tr. 41). This server aggregates recording requests and is the only server to communicate directly with the Arroyo server. (Hartson Report ¶ 62; Tr. 41). When the time comes for a program selected for recording to run, the Vitria server sends a unified list of all the requests for that program to the ingestion component of the Arroyo server, which is holding the packets for that program in its buffer memory. (Hartson Report ¶¶ 58-62; Tr. 40-42).

Once the Arroyo server receives the list of recording requests from the Vitria server, it finds the packets for that particular program, which are sitting in the primary ingest buffer, then copies them to another place in its memory called

the secondary ingest buffer. (Hartson Report ¶¶ 65; Tr. 42-44). A copy of the program is made for each customer that requested that the program be recorded. (Hartson Report ¶ 66; Mitchko Decl. ¶ 29). From the secondary ingestion buffer, a complete copy of the program is written to the hard drive of each requesting customer. (Hartson Report ¶¶ 63-67; Tr. 42-44). For instance, if 1000 customers want to record a specific episode of HBO's "The Wire," 1000 separate copies of that episode are made, each copy uniquely associated by identifiers with the set-top box of the requesting customer. (See Mitchko Decl. ¶ 29). Once a copy of the program is made to the customer's hard drive, the Arroyo server initiates a series of messages to inform the other components of the RS-DVR that the program has been recorded, is available for playback, and should appear as such on the customer's on-screen program guide. (Hartson Report ¶ 68; Mitchko Decl. ¶ 35; Tr. 44-45). The customer can request and control playback of the program, but the customer cannot copy it to an attached external disk drive or VCR, as can be done with a program recorded with a set-top DVR. (Tr. 46-47).

If no customer requests that a particular program be recorded, no copy of that program is made in the hard drives on the Arroyo server. (Mitchko Decl. ¶ 30). Portions of programming are copied to buffer memory in the BMR and to the primary ingest buffer, regardless of whether a customer requests that it be recorded. (Hartson Report ¶¶ 97-98).

iv. Playback

When customers want to play back recorded programming, they use their remote control to select the program from the on-screen program guide's list of recorded programs. (Mitchko Decl. ¶ 35). This initiates the retransmission function of the Arroyo servers. (Tr. 47). The set-top box communicates with a server called the "Enterprise Session Resource Manager" ("eSRM"), which manages the playback process. (Hartson Report ¶¶ 69-76; Tr. 47-49). The eSRM sends messages to the other components of the RS-DVR to verify that the playback command is valid, determine the location of the recorded program, and reserve space, or "bandwidth," in the QAM so that the program can be streamed to the customer's set-top box. (Hartson Report ¶¶ 71-74; Mitchko Decl. ¶¶ 37-39; Tr. 47-49). The Arroyo server locates the copy of the program stored on the customer's hard drive, reads it into buffer memory -- here, the "streaming buffer" -- and sends it to the Ciena switch, which routes the programming stream to the appropriate QAM serving that customer. (Tr. 49-50). The stream containing the program is transmitted to every home in the node where the requesting customer is located, but only the requesting set-top box is provided the key for decrypting the stream for viewing. (Hartson Report ¶ 75; Mitchko Decl. ¶ 42; Tr. 50, 76).

Once the playback session has started, the customer can use trick modes to pause, fast-forward, and rewind the program. (Hartson Report ¶ 76). To enable these trick modes, the RS-DVR

automatically places one to two seconds worth of video data from the programming stream into buffer memory. (Hartson Report ¶ 101). If too many customers in a particular node are using their RS-DVR at the same time, the system will not be able to handle all of them and there will be the equivalent of a "busy signal" as an error message will be displayed. (Tr. 79-80).

B. Procedural History

The first of these two related cases was filed on May 24, 2006, and the second was filed on May 26, 2006. Plaintiffs in both actions seek declaratory and injunctive relief to prevent Cablevision from rolling out the RS-DVR without proper licenses for the use of plaintiffs' copyrighted works.[6]

By stipulation so ordered June 7, 2006, plaintiffs agreed that they were asserting only claims of direct copyright infringement, and defendants agreed that they would not assert a "fair use" defense. Defendants further agreed not to proceed with the roll-out of the RS-DVR pending resolution by the Court of the question of liability in this action.

After conducting limited discovery, the parties filed cross-motions for summary judgment. I conducted a hearing and heard oral argument on October 31 and November 1, 2006. The parties agreed that the Court would be able to assess credibility

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[6] Although the complaint in the first of these cases (the "Fox" case) is entitled "Complaint for Declaratory and Injunctive Relief," the prayer for relief includes a request for damages. (Fox Compl. 10). As the RS-DVR roll-out has been stayed and the complaint does not allege damages, the Court assumes the Fox plaintiffs are not actually seeking damages.

and make findings as to the expert testimony presented at the hearing. They further agreed that following the hearing, the Court would have a sufficient record upon which to enter judgment in this case, unless the Court determined that there were disputed issues of material fact that prevented entry of judgment.

DISCUSSION

A. Summary Judgment Standard

The standards governing motions for summary judgment are well-settled. A court may grant summary judgment only where there is no genuine issue of material fact and the moving party is therefore entitled to judgment as a matter of law. See Fed R. Civ. P. 56(c); Matsushita Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 585-87 (1986). Accordingly, the court's task is not to "weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249 (1986). To create an issue for trial, there must be sufficient evidence in the record to support a jury verdict in the nonmoving party's favor. See id.

To defeat a motion for summary judgment, the nonmoving party "must do more than simply show that there is some metaphysical doubt as to the material facts." Matsushita, 475 U.S. at 586. As the Supreme Court stated in Anderson, "[i]f the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." Anderson, 477 U.S. at 249-50

(citations omitted). The nonmoving party may not rest upon mere conclusory allegations or denials, but must set forth "concrete particulars" showing that a trial is needed. Nat'l Union Fire Ins. Co. v. Deloach, 708 F. Supp. 1371, 1379 (S.D.N.Y. 1989) (quoting R.G. Group, Inc. v. Horn & Hardart Co., 751 F.2d 69, 77 (2d Cir. 1984) (internal quotations omitted)). Accordingly, it is insufficient for a party opposing summary judgment "merely to assert a conclusion without supplying supporting arguments or facts." BellSouth Telecomms., Inc. v. W.R. Grace & Co., 77 F.3d 603, 615 (2d Cir. 1996) (internal quotations omitted).

A court faced with cross-motions for summary judgment need not "grant judgment as a matter of law for one side or the other," but "must evaluate each party's motion on its own merits, taking care in each instance to draw all reasonable inferences against the party whose motion is under consideration." Heublein, Inc. v. United States, 996 F.2d 1455, 1461 (2d Cir. 1993) (quoting Schwabenbauer v. Bd. of Ed. of Olean, 667 F.2d 305, 313-14 (2d Cir. 1981) (internal citations omitted)).

B. Copyright Infringement

The Copyright Act of 1976 (the "Copyright Act"), 17 U.S.C. § 101 et seq., confers upon copyright owners the exclusive rights to, among other things, "reproduce the copyrighted work in copies" and "in the case of . . . audiovisual works, to perform the copyrighted work publicly." Id. §§ 106(1) and (4) (2002). "To establish a claim of copyright infringement, a plaintiff must establish (1) ownership of a valid copyright and (2) unauthorized

copying or a violation of one of the other exclusive rights afforded copyright owners pursuant to the Copyright Act." Byrne v. British Broad. Corp., 132 F. Supp. 2d 229, 232 (S.D.N.Y. 2001) (citing Twin Peaks Prods. v. Publ'ns Int'l. Ltd., 996 F.2d 1366, 1372 (2d Cir. 1993)); see Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 361 (1991).

Here, it is undisputed that plaintiffs own valid copyrights for the television programming at issue. The only question before the Court is whether Cablevision is "copying" plaintiffs' copyrighted programming or otherwise violating plaintiffs' rights under the Copyright Act.

Plaintiffs allege that Cablevision, through its RS-DVR, directly infringes upon their copyrights in two ways: one, Cablevision makes unauthorized copies of plaintiffs' programming, in violation of plaintiffs' right to reproduce their work; and two, Cablevision makes unauthorized transmissions of plaintiffs' programming, in violation of plaintiffs' exclusive right to publicly perform their work. I address each argument in turn.

1. Is Cablevision Making Unauthorized Copies?

According to plaintiffs, Cablevision makes multiple unauthorized copies of programming in two respects: (1) a complete copy of a program selected for recording is stored indefinitely on the customer's allotted hard drive space on the Arroyo server at Cablevision's facility; and (2) portions of programming are stored temporarily in buffer memory on Cablevision's servers.

i. Arroyo Server Copies

Cablevision does not deny that these copies are made in the operation of the RS-DVR, but, as the parties agree, the question is who makes the copies. Cablevision sees itself as entirely passive in the RS-DVR's recording process -- it is the customer, Cablevision contends, who is "doing" the copying. To Cablevision, the RS-DVR is a machine, just like a VCR, STS-DVR, or a photocopier. Relying on Sony and other cases, Cablevision argues that it cannot be liable for copyright infringement for merely providing customers with the machinery to make copies. At most, it contends, its role with respect to the RS-DVR establishes indirect infringement, but plaintiffs have waived such a claim. (See June 7, 2006 Order). Plaintiffs, on the other hand, allege direct infringement -- that is, they claim that it is Cablevision that is "doing" the copying here. Plaintiffs characterize the RS-DVR as a service -- one that requires the continuing and active involvement of Cablevision.

I agree with plaintiffs. The RS-DVR is clearly a service, and I hold that, in providing this service, it is Cablevision that does the copying.

In Sony, programming owners sued Sony and others for copyright infringement based on defendants' marketing and sale of Betamax VCRs. The record showed that consumers primarily used VCRs for home "time-shifting" -- the practice of recording a program to view it at a later time, then erasing it. The Supreme

Court held that time-shifting is "fair use"[7] and does not violate the Copyright Act. 464 U.S. at 456. The Court held that Sony's manufacture of Betamax VCRs therefore did not constitute contributory infringement.

Cablevision's reliance on Sony is misguided. First, Cablevision has waived any arguments based on fair use. (See June 7, 2006 Order). Second, apart from their time-shifting functions, the RS-DVR and the VCR have little in common, and the relationship between Cablevision and potential RS-DVR customers is significantly different from the relationship between Sony and VCR users.

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[7] The "fair use" defense, set forth in § 107 of the Copyright Act, provides in relevant part:

> [T]he fair use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching . . . , scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include--
>
> (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
>
> (2) the nature of the copyrighted work;
>
> (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
>
> (4) the effect of the use upon the potential market for or value of the copyrighted work.

17 U.S.C. § 107.

A VCR is a stand-alone piece of equipment. A consumer purchases the VCR and owns it outright. The consumer can then pick the VCR up, transport it, connect it to someone else's television and, assuming both devices are in working order, record programming. The RS-DVR does not have that stand-alone quality. An RS-DVR customer would not be able to disconnect his or her home set-top box, connect it elsewhere, and record programming. This is because the RS-DVR is not a single piece of equipment; it consists of a multitude of devices and processes. Unlike a VCR, the simple push of a button by the RS-DVR customer does not produce a recording. The pushing of the "record" button on the remote control merely sends a request to Cablevision's head-end to set the recording process in motion. The various computers and devices owned and operated by Cablevision and located at its head-end are needed to produce a recording.

Indeed, ownership of the RS-DVR set-top box remains with Cablevision and the RS-DVR requires a continuing relationship between Cablevision and its customers. In Sony, "[t]he only contact between Sony and the users of the Betamax . . . occurred at the moment of the sale." 464 U.S. at 438. In stark contrast, Cablevision would not only supply a set-top box for the customer's home, but it would also decide which programming channels to make available for recording and provide that content, and it would house, operate, and maintain the rest of the equipment that makes the RS-DVR's recording process possible. Cablevision has physical control of the equipment at

its head-end, and its personnel must monitor the programming streams at the head-end and ensure that the servers are working properly. (Tr. 52-54, 75-76). Cablevision determines how much memory to allot to each customer and reserves storage capacity for each on a hard drive at its facility, and customers may very well be offered the option of acquiring additional capacity -- for a fee. On the other hand, once Sony sells a VCR to a customer, Sony need not do anything further for the VCR to record.

The ongoing participation by Cablevision in the recording process also sets the RS-DVR apart from the STS-DVR. Cablevision claims that with both, the customer is "doing" the copying, and it points to the fact that no programmer . . . has ever sued Cablevision or any other cable operator in connection with its providing set-top storage DVRs to its customers (Defs. Mem. at 16). By extension, the RS-DVR, it argues, presents no copyright infringement.

This argument is unavailing. The fact that plaintiffs and other programming owners have not sued cable operators over the legality of STS-DVRs does not insulate the RS-DVR from such a challenge. Cablevision has not asserted any affirmative defenses to that effect, nor have plaintiffs conceded the legality of STS-DVRs. In any event, Cablevision's attempt to analogize the RS-DVR to the STS-DVR fails. The RS-DVR may have the look and feel of an STS-DVR (see Defs. Ex. 101), but "under the hood" the two types of DVRs are vastly different. For example, to

effectuate the RS-DVR, Cablevision must reconfigure the linear channel programming signals received at its head-end by splitting the APS into a second stream, reformatting it through clamping, and routing it to the Arroyo servers. The STS-DVR does not require these activities. The STS-DVR can record directly to the hard drive located within the set-top box itself; it does not need the complex computer network and constant monitoring by Cablevision personnel necessary for the RS-DVR to record and store programming.

The RS-DVR, contrary to defendants' suggestions, is more akin to VOD than to a VCR, STS-DVR, or other time-shifting device. In fact, the RS-DVR is based on a modified VOD platform. (Hartson Report ¶ 114; Tr. 82). With both systems, Cablevision decides what content to make available to customers for on-demand viewing. The programming available for viewing is stored outside the customer's home at Cablevision's head-end. Both utilize a "session resource manager," such as the eSRM used by the RS-DVR, to set up a temporary pathway to deliver programming in encrypted form to the customer for playback; decryption information is transmitted in both systems to the customer's set-top box. (Hartson Report ¶ 120). The number of available pathways for programming delivery in both systems is limited; if there are none available, the customer gets an error message or busy signal. (Id.). Thus, in its architecture and delivery method, the RS-DVR bears striking resemblance to VOD -- a service that Cablevision provides pursuant to licenses negotiated with

programming owners. (See Tr. 84-85).

Defendants cite a host of cases to buttress their argument that the RS-DVR is not a service like VOD, but a machine that allows customers to engage in copying. None of these cases is helpful to defendants. For example, defendants cite two cases for the proposition that a company that makes photocopiers available to the public on its premises is not subject to liability for direct infringement unless the company's employees do the copying themselves. See Basic Books, Inc. v. Kinko's Graphics Corp., 758 F. Supp. 1522 (S.D.N.Y. 1991); Princeton Univ. Press v. Michigan Document Servs., Inc., 99 F.3d 1381 (6th Cir. 1996). In both cases college professors provided copyrighted material to a copy center, which assembled the material into "coursepacks" and sold them to students without paying royalties or obtaining permission from the copyright holders, and in both cases the copy center was found directly liable for infringement.

Here, Cablevision would have a similarly active role. Cablevision, through its RS-DVR, would not merely house copying machinery on its premises for customers to engage in copying. Rather, Cablevision would be "doing" the copying, notwithstanding that the copying would be done at the customer's behest, and Cablevision would provide the content being copied. These cases and others cited by defendants are thus inapposite. See also RCA Records v. All-Fast Sys., Inc., 594 F. Supp. 335, 338 (S.D.N.Y. 1984) (holding retail copy service that operated cassette copying

machine used to copy copyrighted sound recordings liable for direct infringement, even though copies were made at request of customers).

Cablevision also relies, to no avail, on Religious Techn. Ctr. v. Netcom On-Line Commc'n Servs., Inc., 907 F. Supp. 1361 (N.D. Cal. 1995), and subsequent cases brought against Internet service providers ("ISPs") for copyright infringement committed by their customers. In Netcom, an individual posted copyrighted material in a message on a computer bulletin board service ("BBS"). By operation of the ISP's software, the posting to the BBS automatically resulted in the copying of the message to the ISP's computers, where the copies were stored briefly. The court declined to find the ISP liable for direct infringement based on these copies, concluding that it is virtually impossible for an ISP to filter out infringing data. This conclusion was premised on the unique attributes of the Internet, for "the court [did] not find workable a theory of infringement that would hold the entire Internet liable for activities that cannot reasonably be deterred. Billions of bits of data flow through the Internet and are necessarily stored on servers throughout the network." Id. at 1372.

Cablevision, however, is not similarly situated to an ISP. Cablevision is not confronted with the free flow of information that takes place on the Internet, which makes it difficult for ISPs to control the content they carry. Cablevision has unfettered discretion in selecting the

programming that it would make available for recording through the RS-DVR and is the driving force behind the RS-DVR's recording and playback functions. Indeed, at one point Cablevision considered limiting the RS-DVR to just twelve or fifty channels before deciding on including all 170 channels. This situation is a far cry from the ISP's role as a passive conduit in Netcom. Furthermore, the copies made to the ISP's computers in Netcom were incidental to the ISP's providing Internet access. The copies that would be made through the RS-DVR, in contrast, are instrumental to the RS-DVR's operation. Defendants' reliance on Netcom and its progeny is therefore misplaced.

On the record before the Court, a reasonable factfinder could only conclude that the copying at issue -- the copying of programming to the RS-DVR's Arroyo servers -- would be done not by the customer but by Cablevision, albeit at the customer's request. This copying would, as a matter of law, constitute copyright infringement.

ii. Buffer "Copies"

Defendants deny that the portions of programming temporarily stored in buffer memory during the RS-DVR's operation are "copies" for purposes of the Copyright Act. Under the Copyright Act, "copies" are defined as:

> [M]aterial objects . . . in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. The term "copies"

> includes the material object . . . in which the work is first fixed.

17 U.S.C. § 101.

The buffer copies here, defendants contend, cannot be considered infringing copies because they are "not fixed" and are "otherwise de minimis." (Defs. Mem. at 29). The Copyright Act, however, provides that a work is "fixed" if it "is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration." Id. Here, as discussed, the portions of programming residing in buffer memory are used to make permanent copies of entire programs on the Arroyo servers. Clearly, the buffer copies are capable of being reproduced. Furthermore, the buffer copies, in the aggregate, comprise the whole of plaintiffs' programming. For instance, while it is true that only three frames of each program carried on the linear channels are resident in the primary ingest buffer at any given time, ultimately, however, the entire programming content for each channel will pass through the primary ingest buffer. The aggregate effect of the buffering that takes place in the operation of the RS-DVR can hardly be called de minimis.

Furthermore, numerous courts have held that the transmission of information through a computer's random access memory or RAM, as is the case with the buffering here, creates a "copy" for purposes of the Copyright Act. See, e.g., Stenograph L.L.C. v. Bossard Assoc., Inc., 144 F.3d 96, 100 (D.C. Cir. 1998) (loading of software into RAM is "copying"); Triad Sys. Corp. v.

Southeastern Express Co., 64 F.3d 1330, 1335 (9th Cir. 1995) (same); MAI Sys. Corp. v. Peak Computer, Inc., 991 F.2d 511, 519 (9th Cir. 1993) (same); Marobie-FL., Inc. v. Nat'l Ass'n of Fire Equip. Distrib., 983 F. Supp. 1167, 1177-78 (N.D. Ill. 1997) (downloading of file from website constitutes "copying" by host computer, where portions of file pass through RAM before being immediately transmitted over Internet).

Indeed, the United States Copyright Office, in its August 2001 report on the Digital Millennium Copyright Act[8] ("DMCA Report"),[9] has indicated that buffer copies are "copies" within the meaning of the Copyright Act. Specifically, the Copyright Office concluded that temporary copies of a work in RAM are generally "fixed" and thus constitute "copies" within the scope of the copyright owner's right of reproduction, so long as they exist for a sufficient amount of time to be capable of being copied, perceived or communicated. (DMCA Report at xxii, 110-11).

Because I conclude that Cablevision, through operation of its proposed RS-DVR, would "copy" plaintiffs' programming both in the Arroyo servers and in buffer memory, in violation of plaintiffs' exclusive right of reproduction under the Copyright Act, summary judgment is granted in favor of plaintiffs in this

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[8] The DMCA was enacted into law in October 1998 to bring copyright law in line with the digital age. See S. Rep. No. 105-190, at 1-2 (1998).

[9] See U.S. Copyright Office, DMCA Section 104 Report, at 107-17 (Aug. 2001), available at http://www.copyright.gov/reports/studies/dmca/dmca_study.html.

respect. Cablevision is hereby enjoined from so copying plaintiffs' copyrighted works, unless it obtains a license to do so.

2. Is Cablevision Making Unauthorized Transmissions?

As discussed, for the RS-DVR to work, the programming stream that Cablevision receives at its head-end must be split into a second stream, reformatted, and routed to the Arroyo server system. When a customer requests playback of a recorded program, the program must be retrieved from the Arroyo server and transmitted to the customer. This transmission, plaintiffs contend, is an unauthorized public performance by Cablevision of their copyrighted works.

To "perform" a work, as defined in the Copyright Act, is "to recite, render, play, dance, or act it, either directly or by means of any device or process or, in the case of a motion picture or other audiovisual work, to show its images in any sequence or to make the sounds accompanying it audible." 17 U.S.C. § 101. Cablevision does not contest that the streaming of recorded programming in response to a customer's request is a performance. It again suggests, however, that it is passive in this process -- that it is the customer, not Cablevision, that is "doing" the performing. I reject this suggestion, for the same reasons that I reject the argument that the customer is "doing" the copying involved in the RS-DVR. Cablevision actively participates in the playback process. The customer's use of the remote control to select a recorded program for viewing does not,

in itself, result in playback. Compare with Columbia Pictures Indus., Inc. v. Redd Horne, Inc., 749 F.2d 154, 159 (3d Cir. 1984) (one who actually places a video cassette in the video cassette player and operates the controls "performs" because that activity results in the sequential showing of the movie's images accompanied by sound). The customer's command triggers the playback process, but again, it is Cablevision and its operation of an array of computer servers at the head-end that actually make the retrieval and streaming of the program possible.

Cablevision next posits that even if it is "doing" the performing, such performance is fundamentally private, for each streaming emanates from a distinct copy of a program uniquely associated with one customer's set-top box and intended for that customer's exclusive viewing in his or her home. This argument, too, is flawed.

The Copyright Act provides, in relevant part, that to "perform" a work "publicly" is:

> [T]o transmit or otherwise communicate a performance or display of the work . . . to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times.

17 U.S.C. § 101 (emphasis added). This part of the definition of public performance is known as the "transmit clause." Under the plain language of this clause, a transmission "to the public" is a public performance, even if members of the public receive the transmission at separate places at different times. Such is the

case here. Cablevision would transmit the same program to members of the public, who may receive the performance at different times, depending on whether they view the program in real time or at a later time as an RS-DVR playback.

Furthermore, where the relationship between the party sending a transmission and party receiving it is commercial, as would be the relationship between Cablevision and potential RS-DVR customers, courts have determined that the transmission is one made "to the public." See On Command Video Corp. v. Columbia Pictures Indus., 777 F. Supp. 787, 790 (N.D. Cal. 1991).

On Command is instructive. There, the plaintiff developed a system for the electronic delivery of movie videos to hotel guest rooms. The system's computer equipment and bank of video cassette players ("VCPs") were centrally housed, and the VCPs were wired to the guest rooms. The hotel guest, using a remote control and an on-screen menu from her room, could at any time select a movie, which could only be seen in that room. Defendants, who owned the copyrights in the movies shown through the system, claimed that the system's video transmissions were public performances. The court agreed, holding that because the relationship between the transmitter of the performance and the audience was commercial, the performance was "to the public," even though hotel guests were watching the videos in a decidedly non-public place. In so holding, the court cited the language of the Copyright Act providing that a performance may still be public even though it reaches members of the public at different

times and places. Id. at 790 (citing 17 U.S.C. § 101). It further pointed to the legislative history:

> [A] performance made available by transmission to the public at large is "public" even though the recipients are not gathered in a single place . . . . The same principles apply whenever the potential recipients of the transmission represent a limited segment of the public, such as the occupants of hotel rooms . . . .; they are also applicable where the transmission is capable of reaching different recipients at different times, as in the case of sounds or images stored in an information system and capable of being performed or displayed at the initiative of individual members of the public.

Id. (citing H.R. Rep. No. 90-83, at 29 (1967)). Accordingly, the court concluded "whether the number of hotel guests viewing an On Command transmission is one or one hundred, and whether these guests view the transmission simultaneously or sequentially, the transmission is still a public performance since it goes to members of the public." Id.

Similarly, in Redd Horne, the Third Circuit stated:

> [T]he transmission of a performance to members of the public, even in private settings such as hotel rooms or [private viewing rooms open to the public], constitutes a public performance. As the statutory language and legislative history [of the Copyright Act] clearly indicate, the fact that members of the public view the performance at different times does not alter this legal consequence.

749 F.2d at 159. There, the defendants operated video sale and rental stores, where they set up private viewing booths so that customers could watch copyrighted movie video tapes.

In both Redd Horne and On Command, the party providing the video service had discretion over what content was available to customers; the customer selected the programming he or she wished to view; the service provider supplied the content from one location to another location for the customer's exclusive viewing; and the service provider supplied the same content to other customers at different times. Cablevision is no different from the On Command and Redd Horne service providers, and its streaming of a program recorded with the RS-DVR back to the requesting customer is no less a public performance than the transmissions in those cases.

I hold, as a matter of law, that Cablevision would engage in public performance of plaintiffs' copyrighted works in operating its proposed RS-DVR service, thereby infringing plaintiffs' exclusive rights under the Copyright Act. Summary judgment is granted in favor of plaintiffs in this respect as well. Absent the appropriate licenses, Cablevision is hereby enjoined from engaging in such public performance.

CONCLUSION

For the reasons set forth above, plaintiffs' motions for summary judgment are granted, and defendants' motion for summary judgment is denied. Defendants' counterclaim is dismissed with prejudice. Cablevision is permanently enjoined, in connection with its proposed RS-DVR system, from (1) copying plaintiffs' copyrighted works and (2) engaging in public performance of plaintiffs' copyrighted works, unless it obtains

licenses to do so. Plaintiffs shall submit a proposed judgment, on notice, within seven business days hereof. Costs will be awarded.

SO ORDERED.

Dated: March 22, 2007
New York, New York

DENNY CHIN
United States District Judge

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