

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK CORPORATION,
DISH NETWORK L.L.C.,
DISH NETWORK SERVICE L.L.C.,
Petitioners,

v.

ENTROPIC COMMUNICATIONS, LLC,
Patent Owner.

CASE: IPR2023-00392
U.S. PATENT NO. 7,542,715

PATENT OWNER'S PRELIMINARY RESPONSE

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Exhibit No.	Description
Ex. 2001	Entropic Communications, LLC's Statutory Disclaimer filed May 12, 2023

I. INTRODUCTION

Patent Owner, Entropic Communications, LLC (“Entropic” or “PO”), submits this Patent Owner Preliminary Response pursuant to 37 C.F.R. § 42.107(a) to the *Inter Partes* Review petition (“Petition”) filed by Dish Network Corporation, Dish Network L.L.C., and Dish Network Service L.L.C. (collectively “Petitioners”) for claims 1-19 (the “Challenged Claims”) of U.S. Patent 7,542,715 (the “’715 Patent”). The Board should deny institution.

The ’715 Patent claims a two-part solution to the problem of having to provide numerous wires from an outdoor satellite-receiving dish to indoor set-top boxes (“STBs”). The first part is an outdoor unit (“ODU”) that selects a subset of all “transponder signals” received from orbiting satellites. The chosen subset is small enough to fit on a single wire. The second part is a gateway device inside the premises acting as a single point of reception and distribution, able to serve multiple STBs. Most crucially for the invention, the ODU chooses only some subset of programming to send inside to the gateway. The signal selector of the ODU is therefore designed to respond to instructions from the gateway. These instructions tell the ODU which signals to select and provide over the single wire to the gateway for distribution to the STBs. The claims at issue call these instructions “transponder select information.”

None of the prior art discloses “transponder select information” because none of the art contemplates an architecture supporting, or needing, it. The lack of transponder select information is a symptom of a much larger problem throughout the Petition. Overall, each ground utilizes references that are directed towards a fundamentally different satellite distribution architecture, in which, signal selection is predetermined in a remote location by human operators. Because signal selection in the ’715 Patent occurs dynamically within the system, the Petition must twist and misrepresent the asserted prior art to even attempt to render obvious the claims of the ’715 Patent. But no matter how the various references are clipped and glued together in combination, the fact remains that there is no obviousness cases here.

As to Ground 1, Petitioners do not stand a reasonable likelihood of prevailing on Ground 1 primarily because: (1) Petitioners misunderstand Fisk¹ at such a fundamental level that, even when combined with Carnero², it fails to render obvious a gateway that transmits transponder select information to a satellite ODU, as recited by claim 9; and (2) the Petition fails to establish a legally sufficient motivation to combine Fisk and Carnero in the first place to arrive at the invention of claim 9.

¹ WIPO Publication No. 2002/065771 (Ex. 1003)

² European Patent No. EP0740434B1 (Ex. 1004)

Neither Fisk nor Carnero disclose “transponder select information” because neither contemplate a signal selector capable of responding to a gateway’s instructions.

As to Ground 2, Petitioners do not stand a reasonable likelihood of prevailing on Ground 2 because: (1) Davis³ is not prior art; (2) even assuming Davis is entitled to its provisional priority date, the asserted combination of Green⁴ and Davis fails to render obvious a gateway that transmits transponder select information to a satellite ODU; and (3) the Petition fails to establish a legally sufficient motivation to combine Green and Davis to arrive at the invention of claim 9. Again, neither reference discloses “transponder select information” for the separate signal selector device. Davis is a traditional system that transmits all received transponder signals to the gateway, not a specific subset, thus it does not need to transmit “transponder select information” to a separate signal selector to select a subset of transponder signals. Green is arranged to provide all received transponder channels to all units in the system and because it does not engage in signal selection, there is no need for the system to be responsive to any “transponder select information.”

Both Ground 1 and Ground 2 fail to render obvious claim 9. Furthermore, because dependent claims 10-12 depend from independent claim 9, the entirety of

³ U.S. Patent Pub. No. 2002/0154055 (Ex. 1006)

⁴ U.S. Patent No. 5,073,930 (Ex. 1005)

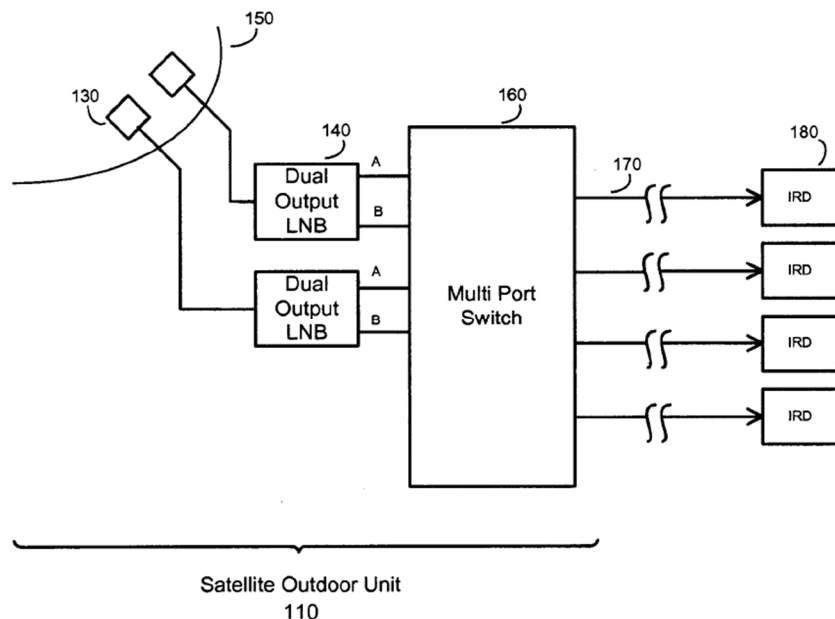
Grounds 1 and 2 should be rejected. It is axiomatic that, if the prior art does not demonstrate that an independent claim is unpatentable, it cannot be used to demonstrate that any corresponding dependent claim is also unpatentable. *See Hartness Int'l Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108 (Fed. Cir. 1987).

As to the remaining grounds, Entropic has disclaimed claims 1-8 and 13-19 and therefore, Grounds 3 and 4 of the Petition should be dismissed.

II. SUMMARY OF THE '715 PATENT

The '715 Patent is directed to an innovative distribution system for consumer installations of satellite television reception equipment. The Patent utilizes a signal selector and combiner in an outdoor module, connected to an advanced gateway indoors to distribute programming to set-top boxes over a digital local area network. *See Ex. 1001*, 2:53-3:42. This gateway enables the set-top boxes to dynamically select any desired satellite channel without impacting the ability of any other downstream set-top box from watching its own desired channel.

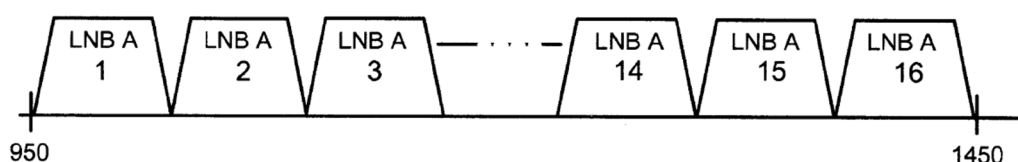
Prior art satellite television systems, as depicted in Figure 1, typically included a satellite receiver outdoor unit (“ODU”) **110**, having a dish antenna **150**, antenna feed horns **130**, low noise amplifier and block down converters (“LNBs”) **140**, and an optional multiport cross point switch **160**:



Id., 1:20-25, Fig. 1. The ODU can “have as many as three or more LNBs each with two receiving polarizations” (shown as A and B in Figure 1). *Id.*, 1:45-46. The switch **160** allows signals to be delivered from the LNBs to the television via an integrated receiver decoder (“IRD”). *Id.*, 1:30-35.

One problem with this prior art approach of connecting an ODU to multiple IRDs is that this approach required multiple cables: one from the ODU to each room where an IRD is located. *Id.*, 1:56-59. For example, this meant that adding a new IRD in a home required, not only a new IRD, but also an entirely new cable to be run from the ODU to the new IRD. *Id.* Even in applications using a media gateway (or server), a central processor for video signals, multiple cables were needed to route signals from the ODU to the gateway. *Id.*, 1:60-62.

To further illustrate the inflexible approach of the prior art, Figure 4 shows all transponder signals provided to a given IRD were limited to only one polarization of a single LNB:



Id., 1:63-2:5, Fig. 4. Although the switch allowed each IRD to switch to different LNBs, it did not allow transponder signals from different LNBs and polarizations to be delivered to an IRD at the same time. *Id.*, 1:67-2:5. This is also true in the gateway context as the gateway requires multiple input cable for each LNB polarization. *Id.*, 2:5-6. In sum, the prior art taught a highly rigid and inflexible approach to distributing transponder signals to multiple IRDs.

To resolve this deficiency, the '715 Patent discloses a system with an innovative ODU that requires only a single cable to be routed to inside the building or to a gateway. *Id.*, 3:26-40. Specifically, the '715 Patent describes a “channel selecting and combining solution” that can be employed by the ODU in response to transponder select information provided via the gateway, such that one or more transponder signals can be selected from each LNB polarization and combined to form a ***composite signal***. *Id.*, 2:53-63. This composite signal is subsequently transmitted over a single cable to the gateway. *Id.*

An example of this system is depicted in Figure 11 (annotated below):

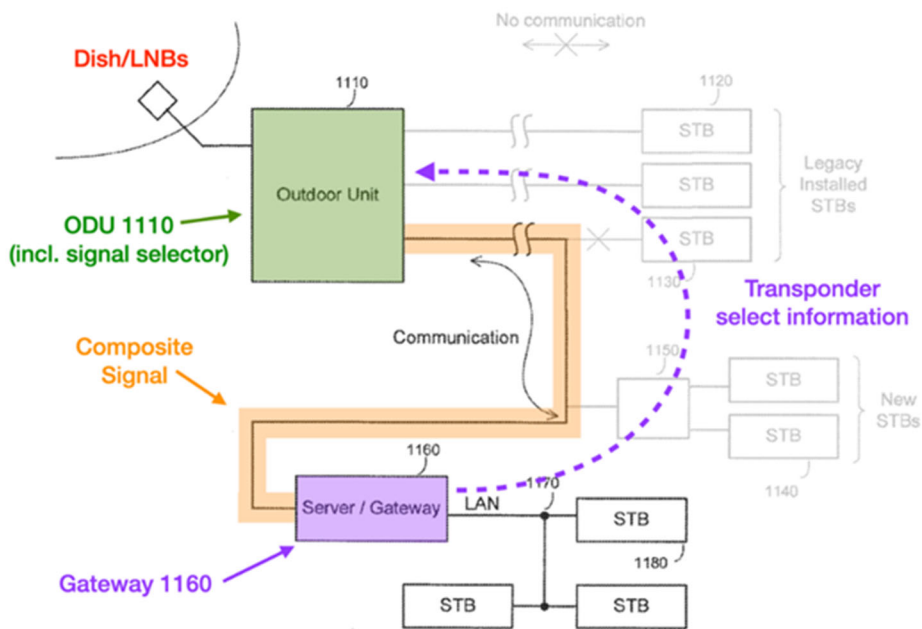
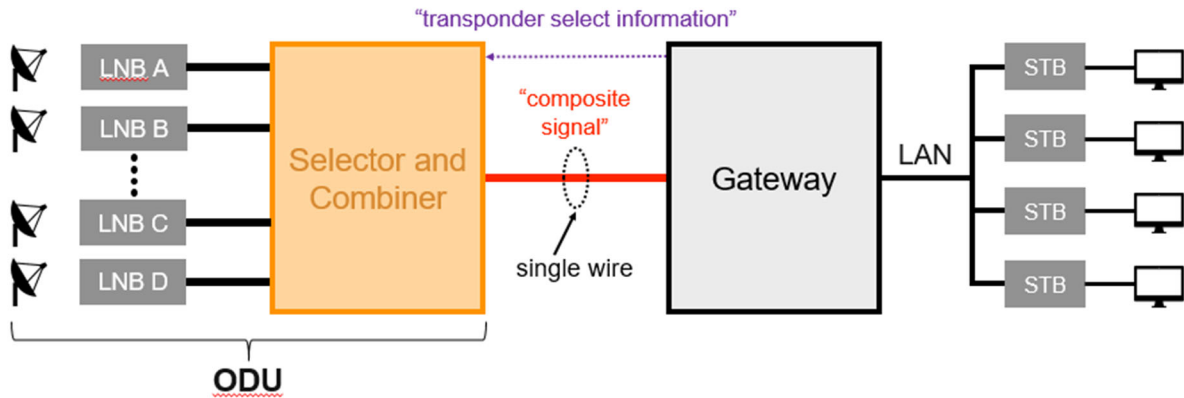


FIG. 11

Id., Fig. 11 (annotated). Figure 11 illustrates ODU **1110** configured to send a composite signal to gateway **1160**, which is capable of decoding specific programs from the composite signal and distributing program information over a digital local area network (“LAN”) **1170** to STBs **1180**. *Id.*, 9:23-48.

Another important feature of the '715 Patent is the bidirectional communication between the ODU and the gateway. Claim 9, for example, requires the gateway to transmit “transponder select information” to the ODU. *Id.*, claim 9. The relevant portion of the system of Figure 11 is illustrated below with a schematic diagram to unwind the relevant part of the Figure into a simple left-to-right orientation:



This bidirectional “communication” is specifically highlighted in Figure 11 and the schematic above. The ’715 Patent also explains the various ways gateway **1160**, STBs **1180**, and ODU **1110** communicate. *Id.*, 9:23-10:13, Figs. 11-12.

In response to channel requests (*e.g.*, transponder select information) transmitted via the gateway, the signal selector and combiner in the ODU combines selected transponder signals from different LNB polarizations into a composite signal. *Id.*, 7:24-38. This concept is illustrated in Figure 5:

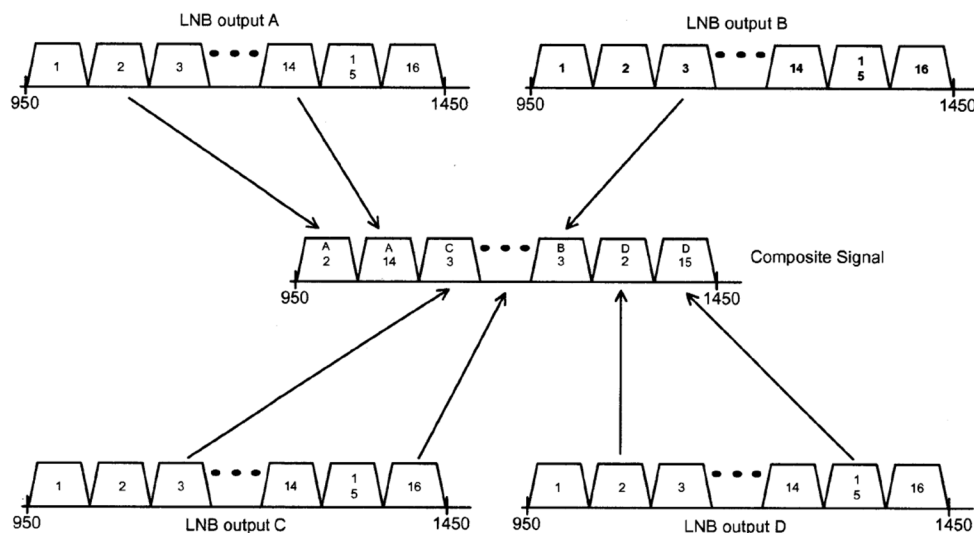


FIG. 5

In Figure 5, at least one transponder signal from each of LNB polarizations A, B, C, and D (at four corners) has been selected and combined into the composite signal (at the center). Upon receiving the composite signal, the gateway decodes the programs for distribution to the STBs over the LAN. *Id.*, 9:44-48.

Unlike the prior art, the '715 Patent discloses a dynamic system that separates the *signal selection* (choosing) of channels from their *distribution*. *See, e.g., id.* 2:54-62 (stating the selected channels are transmitted over a single cable to the gateway for distribution). Selection is performed in the “signal selector and combiner” (of the ODU). *See id.* A subset of all transponder signals available at the satellite are chosen, and then sent to the separate gateway. *See id.* The gateway handles decoding and distribution. *See id.* Crucially, the “signal selector” knows which transponder signals (and channels) to provide because the gateway tells the selector via the “transponder select information.” *Id.*, claim 9. This unique facility is the basis for the flexible architecture of the '715 Patent. This solution allows the gateway to obtain whatever transponder signals are needed for distribution to the individual STBs. At the same time, because the signal selector and combiner selects only a subset of all the transponder signals outdoors and combines them into one signal, all the transponders needed by the gateway at any point in time are able to be sent over a single wire.

As discussed *infra*, this separation of systems distinguishes the '715 Patent from the prior art cited in the Petition. The prior art systems asserted by the Petition disclose distribution architectures which are dependent upon being fed a pre-determined/pre-programmed choice of channels. *See infra*, 14-15 (discussing community television systems). There is no separate “signal selector” as there is in the '715 Patent, and therefore there is nothing to respond to “transponder select information.”

This separation of selection and distribution is readily apparent in the detailed, complex architecture recited in claim 9, which states:

9. A signal distribution system for distributing a plurality of low noise amplifier and block converter (LNB) output signals from a satellite outdoor unit (ODU) comprising:
a gateway in communication with the ODU and at least one set top box (STB);
a signal selector that receives a plurality of broadband LNB signals comprising a plurality of transponder signals, the signal selector is responsive to transponder select information transmitted by the gateway and selects a plurality of transponder signals from at least one broadband LNB signal based on the transponder select information;
a frequency translator coupled to the signal selector that is capable of shifting the selected transponder signals to new carrier frequencies to produce RF signals; and
a signal combiner coupled to at least one frequency translator capable of combining at least two RF signals to produce a composite signal;
wherein the modulation of the composite signal is the same as the modulation of the broadband LNB signals and wherein the composite signal is transmitted to the gateway and the gateway receives the composite signal, decodes specific programs, and distributes the programs over a digital local area network (LAN) to STBs.

To ensure that the system of claim 9 is able to dynamically select channels for distribution, the components of the system have specific requirements that must be met. Beginning with the “signal selector,” it must:

- (1) receive a plurality of broadband LNB signals from the LNB of the ODU that contain transponder signals;
- (2) receive transponder select information from the gateway; and
- (3) select specific transponder signals from at least one broadband LNB signal *based on the transponder select information*.

Ex. 1001, claim 9[b].⁵

Coupled to the signal selector is a “frequency translator” that can “translat[e]” the frequency of the chosen transponder signals so that no overlap in signals will occur when the signals are finally “combine[d]” in the “signal combiner” to produce a “composite signal.” *Id.*, claim 9[c]-[d]. This signal must also have the same modulation as the broadband LNB signals, meaning the signal has not been demodulated prior to distribution to the gateway. *Id.*, claim 9[e].

Finally, the gateway must:

⁵ For consistency between the Petition and the Response, PO uses the Petition’s limitation identifiers (i.e. 9[b]) when discussing specific claim language.

- (1) be in communication with the ODU and at least one STB, *Id.*, claim 9[a];
- (2) transmit transponder select information to the signal selector, *id.*, claim 9[b];
- (3) receive the composite signal; decode specific programs, *id.*, claim 9[f];
and
- (4) distribute the programs over a digital local area network (LAN) to the STBs. *Id.*

Again, each and every element must be present in the system of claim 9 in order for the system to dynamically select AND distribute transponder signals.

III. THE PETITION FAILS TO SHOW THAT THERE IS A REASONABLE LIKELIHOOD THAT PETITIONERS WILL PREVAIL ON A SINGLE CLAIM

The Petition's Ground 1 and Ground 2 each fail for the same reason: they fail to render obvious the use of transponder select information to provide dynamic transponder channel selection. Although all four of the references asserted in Ground 1 and Ground 2 seek to distribute television satellite signals, they each offer a fundamentally different solution to this problem—different from one another and certainly different than the solution offered by the '715 Patent. Furthermore, these references cannot be made to match this architecture, regardless of the slicing and splicing found throughout the Petition.

Notably, three of the references, Fisk and Carnero of Ground 1 and Green of Ground 2, relate entirely to ***distribution*** of satellite television signals based on a “community television system” architecture. *See infra*, 14-15. A base assumption underpinning this type of architecture directly conflicts with the disclosure of the ’715 Patent: the architecture requires all channel selection to be pre-programmed by operators of the system, not controllable by the end users. This means that a ***human*** must program, or re-program, each channel instead of the system being capable of doing so itself.

Meanwhile, the odd reference out (Davis) discloses a monolithic system that effectively combines selection and distribution into the same component, the interface device. *See generally* Ex. 1006. The interface device must be fed the entire menu of transponder signals available at the satellite dishes, so its indoor tuners/decoders can select among them. Davis has no separate “signal selector” to output a “composite signal.” This also means that there is no destination in Davis for transponder select information.

The technical limitations of the art reveal themselves in the fact that no reference presented in the Petition discloses any command or even means of communicating selection information to dynamically re-program the channels transmitted to the gateway. Thus the “transponder select information” that the claim

requires to be sent by the gateway commanding the “signal selector” to choose signals is entirely missing from the prior art.

Furthermore, the grounds fail because the Petition’s proffered motivation to combine is legally deficient for the same basic reasons. The references each offer different solutions to distributing satellite television that are incompatible with one another and thus not combinable. The Petition does not—because it cannot—provide sufficient reasoning to explain why a person of ordinary skill in the art (“POSITA”) would be motivated to combine Fisk with Carnero and Green with Davis, all of which disclose architectures that simply would not be combined by a POSITA. Here, the only motivation to create these abominations of combinations is to recreate the ’715 Patent’s claimed invention. This is improper. Therefore, Ground 1 and Ground 2 fail.

Overall, both grounds fail because, no matter how much cutting, rearranging, and splicing is done, or expert testimony offered, the references cited in Ground 1 and Ground 2 are fundamentally different than the ’715 Patent and therefore, they cannot, in any combination, render obvious the claimed invention. For the following reasons, the Petition fails to establish a reasonable likelihood of prevailing on any ground and, therefore, the Board should deny institution.

A. Ground 1 Fails to Render Obvious Claims 9-12

Ground 1 alleges that claims 9-12 are obvious over the combination of Fisk and Carnero. Petition, 27-50. “An obviousness determination generally requires [1] a finding that all claimed limitations are disclosed in the prior art, and [2] that a person of ordinary skill in the art would have been motivated to combine or modify the teachings in the prior art” *Univ. of Strathclyde v. Clear-Vu Lighting LLC*, 17 F.4th 155, 160 (Fed. Cir. 2021) (citations omitted).

Ground 1 fails for failure to demonstrate these two requirements: (1) the combination fails to disclose “transponder select information” and (2) the proffered motivation to combine is insufficient. These two failures have a common origin: obfuscating the difference between selection and distribution.

1. The Petition Fails to Identify Components from Fisk and Carnero that Meet the Claim Requirements

Before responding specifically to the Petition, it is important to explain the context in which the systems of Fisk and Carnero exist. Both of these systems, along with Green of Ground 2, are “community antenna television systems” or “community television systems.” *Compare* Ex. 1003, 2:13-15 *with* Ex. 1005, 5:47-52; Ex. 1004, 2:3-4 (“The present invention relates to a system for distributing signals, in particular, a community antenna system for distributing television signals of different channels, according to the generic concept of Claim 1.”). As disclosed in Green, a community television system “typically provides television service to a

relatively small ‘community’ of subscribers such as the residents of an apartment building or complex of townhouses or condominiums; the guests of a hotel or motel; or patients within a hospital.” Ex. 1005, 5:47-52. However, community systems are not widely used for various reasons, including: “aesthetic considerations, lack of space, . . . cost and convenience” to name a few. *See* Ex. 1005, 5:52-58. Another disadvantage of community television systems is the complex circuit structure needed to distribute a television signals throughout the community. Ex. 1004, 2:43-53 (discussing the drawbacks of Green).

Furthermore, a common feature among community television systems is a centralized location, sometimes referred to as a “head end,” where channel selection is *pre-programmed*, by the operator of the system. *See, e.g.*, Ex. 1003, 22:12-16, 42:17-43:1 (identifying an equipment room **16** that houses the server **56** that incorporates preprogrammed satellite decoders); Ex. 1004, 4, 8:16-26 (stating the signal processing block is in “a head device” that includes an input unit **16** for manual input of selection information); Ex. 1005, 9:22-23, 12:64-13:2 (system **100** includes a so-called “head-end” shown in FIG. 1A wherein “maintenance personnel” select channels). This centralized location for channel selection is often located separate and apart from the customer’s premises (*i.e.* the location of the STB). Thus, the Petition’s use of community television systems as prior art to the ’715 Patent is

tantamount to the Petition arguing that equipment normally located in a centralized location that serves an entire community should be placed upon every home.

Beyond the assertion of prior art out of context, Ground 1 fails because the combination of Fisk and Carnero does not render every claim limitation obvious and there would be no motivation to combine Fisk and Carnero. However, before addressing the deficiencies in the combination, the failures of Fisk and Carnero respectively will be addressed first.

a. *The Identified Components of Fisk Fail to Meet Specific Claim Requirements*

Fisk discloses “a system for distributing television/video signals to different locations (such as different rooms in a hotel, or different dwellings in a neighborhood).” Ex. 1003, 2:13-15. “Upgrading the infrastructure may be difficult and costly,” so Fisk proposes a system that utilizes an existing hotel network infrastructure. *Id.*, 25:29-31; *see also id.*, 29:18-20.

Beginning with Figure 5, reproduced below, the infrastructure of Fisk includes a satellite dish **22** coupled to a decoder **58**, a server **56**, a switch **70**, and a cable modem system **80** positioned within an equipment room **16** of the hotel **10**. A local control unit (“LCU”) **66** connected to a television in each guest room can control the television/video channel supplied by the server **56**. *Id.*, 22:9-27.

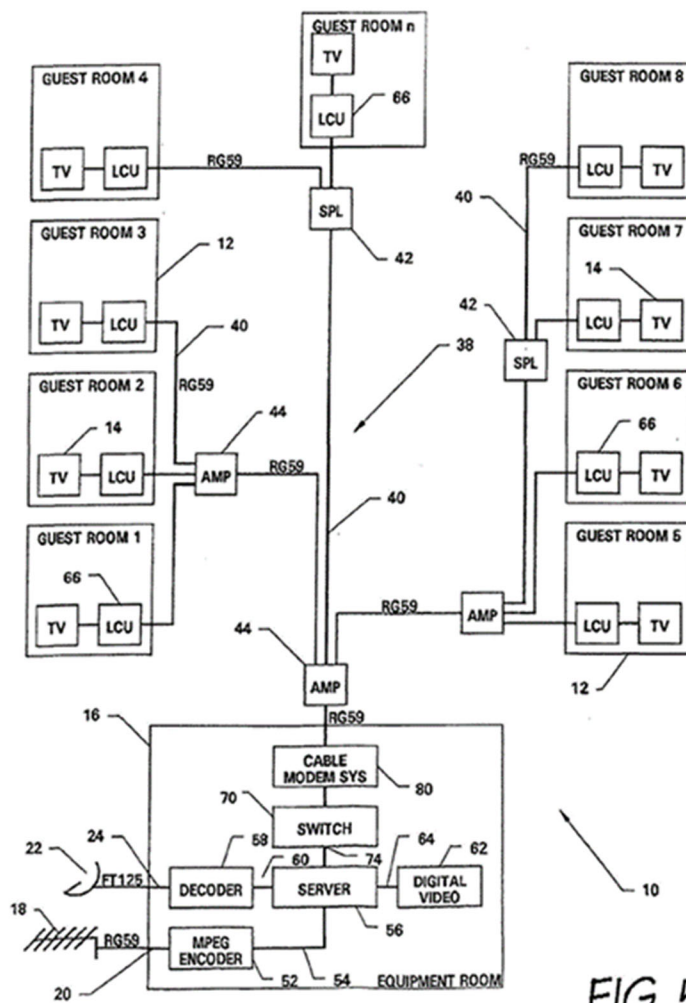


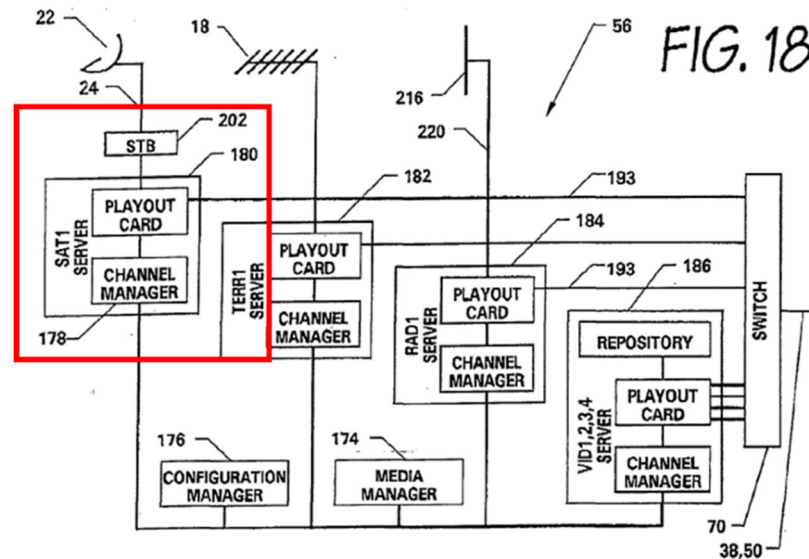
FIG. 5

Id., Fig. 5. The down-link data provided to each LCU 66 via these fixed channels depends on cards (180, 182, 184, and 188) installed in the server 56 of Fisk. *See id.*, 41:6-23. These cards “receive analogue RF and satellite signals and convert them to digital signals.” *Id.*, 41:7-8. And the server 56 requires “[o]ne card 180,188 [to] be installed in the server 56 *per satellite channel* that the hotel wants to receive.” *Id.*, 42:17-43:1.⁶ Fisk ideally would use satellite card 188 to decrypt content, but

⁶ All emphasis and annotations herein are added unless otherwise stated.

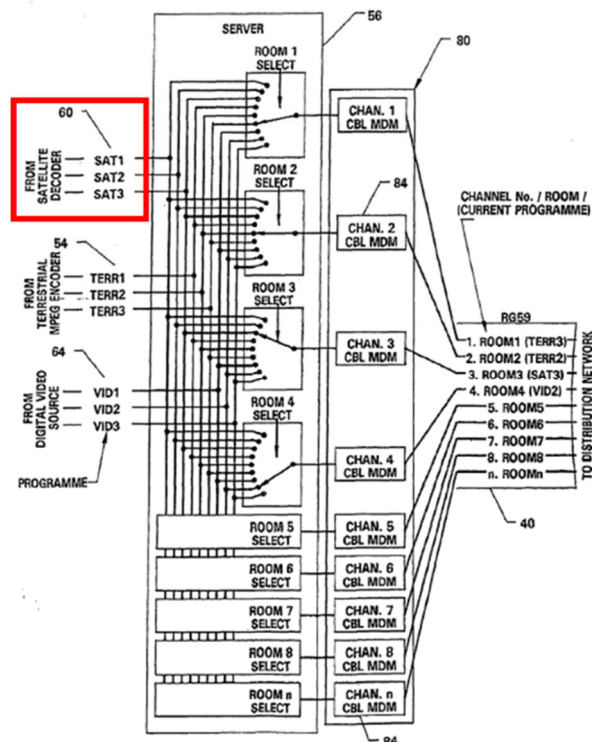
recognizes that “most of the satellite distributors use proprietary software and hardware to ensure that programmes are only received by registered subscribers.” *Id.*, 42:5-12. In most instances set-top box **202** is required in addition to satellite card **180**. *Id.*, 42:12-14. Notably, similar to the cards, “a set-top box **202** is required *for each satellite channel* that is to be distributed within the hotel.” *Id.*, 42:14-16. Regardless whether the card **188** or an STB **202** (with card **180**) is used, each channel requires one to decode and provide the content to Fisk’s server.

Figure 18, reproduced and annotated below, illustrates the configuration for one satellite channel (“SAT1”), including how the server **56** of Fisk is reliant on the combination of card **180** and set-top box **202** (or alternatively card **188**).



Thus, each card **180** (plus set-top box **202**) or card **188** is a “satellite decoder” assigned to a specific pre-programmed channel. *Id.*, Figs. 5, 6, 18; *see also id.*, 21:5-

10, 42:6-43:1. As shown in Figure 6, the server **56** includes three pre-programmed satellite decoders: “SAT1,” “SAT2,” and “SAT3”:



Id., Figs. 5-6; *see also id.*, 19:23-30, 21:5-10.

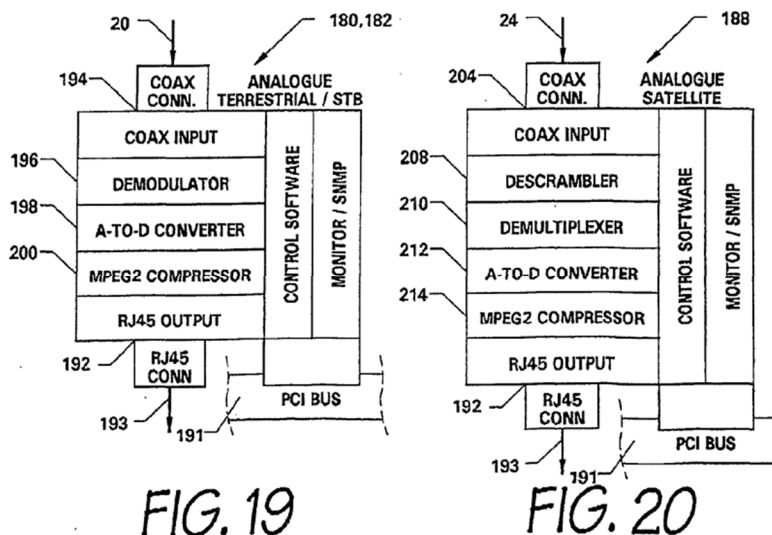
This one-satellite-decoder, per-channel structure of Fisk strictly limits the server **56**. The server can only distribute the decoded programs it is fed. In this example, the server would be limited to the three programs (*e.g.*, SAT1, SAT2, SAT3) provided by the three pre-programmed satellite decoders. *See, e.g., id.*, 42:5-43:1. For example, the satellite decoders may be configured for television channels such as ESPN (*e.g.*, SAT1), Food Network (*e.g.*, SAT2), and The History Channel (*e.g.*, SAT3). These are choices made by the operator of the system, such as hotel management or the community TV provider. If an LCU **66** requests the server **56**

“to change the television/video channel supplied to that LCU **66**,” *id.*, 22:27, to ESPN (*e.g.*, SAT1), Food Network (*e.g.*, SAT2), or The History Channel (*e.g.*, SAT3), the server is capable of fulfilling that request. *Id.*, 22:22-25.

However, if a user desired HBO (*e.g.*, SAT4), Fisk’s server cannot provide it, because HBO is not one of the predetermined choices. Of course, more decoders, and thus more channels, could be added to the system, perhaps with one of them set to HBO by the system operator. But notably, *an LCU cannot* request that a satellite decoder be tuned to HBO. It can pick from what the server has, but the LCU cannot ask the server to change what it receives. Moreover, if somehow one of the existing satellite decoders (*e.g.*, SAT1) was re-programmed to HBO, then all downstream LCUs would lose ESPN and now have HBO. Thus, it would not make sense to allow an LCU to request that a satellite decoder change its channel, if this capability even exists in Fisk, because one LCU choosing HBO would deprive everyone else of ESPN by commandeering that decoder.

Next, the Petition *assumes* Fisk’s server **56** can communicate with the ODU (Petition, 34). Nothing in Fisk discloses that server **56** is capable of communicating with the ODU (in any fashion, much less the claimed transponder select information). The rigid structure of Fisk is reinforced by the physical connections used in the server **56** to connect the satellite decoders. As shown in Figures 19 and 20, the cards **180** and **188** are depicted with a *unidirectional* communication flow

from the ODU (e.g., coaxial input **24**) to the RJ45 output **193** (note the arrows in the figure):



Id., Figs. 19-20. Focusing on Fig. 20 as an example, the “path of signal” follows the path of: (1) satellite dish **22**, (2) coaxial cable **24**, (3) coaxial input port **204**, (4) descrambler **208**, (5) demultiplexer **210**, (6) analogue to digital converter **212**, (7) MPEG-2 compressor **214**, and finally, (8) RJ45 output port. *Id.*, 43:12-13 (displaying table entitled “Analogue Satellite Television Card **188**”); *also id.*, 42:5-6 (displaying table entitled “Analogue Terrestrial Television Card,” which lists an analogous signal path).

In fact, as shown above, the server **56** would **not** have communicated with the ODU. Decoder **58** interfaces with what the Petition alleges to be the ODU, but as explained above, the decoder **58** only allows for a unidirectional communication flow **from** the ODU to the server **56**. Overall, the Petition’s assumption that Fisk’s

server **56** can communicate with the ODU is not supported by the disclosure of Fisk and directly conflicts with what Fisk does disclose. These failures, plus additional ones identified below, contribute to the failure of the combination.

Now turning to the Petition, it attempts, as depicted in the Petition’s annotated Figure 5 below, to find the claimed “gateway” in a conglomeration of decoder **58**, server **56**, switch **70**, and cable modem **80**. Petition, 33. The Petition further identifies the satellite dish **22** and download **24** of Fisk as an ODU. *Id.*

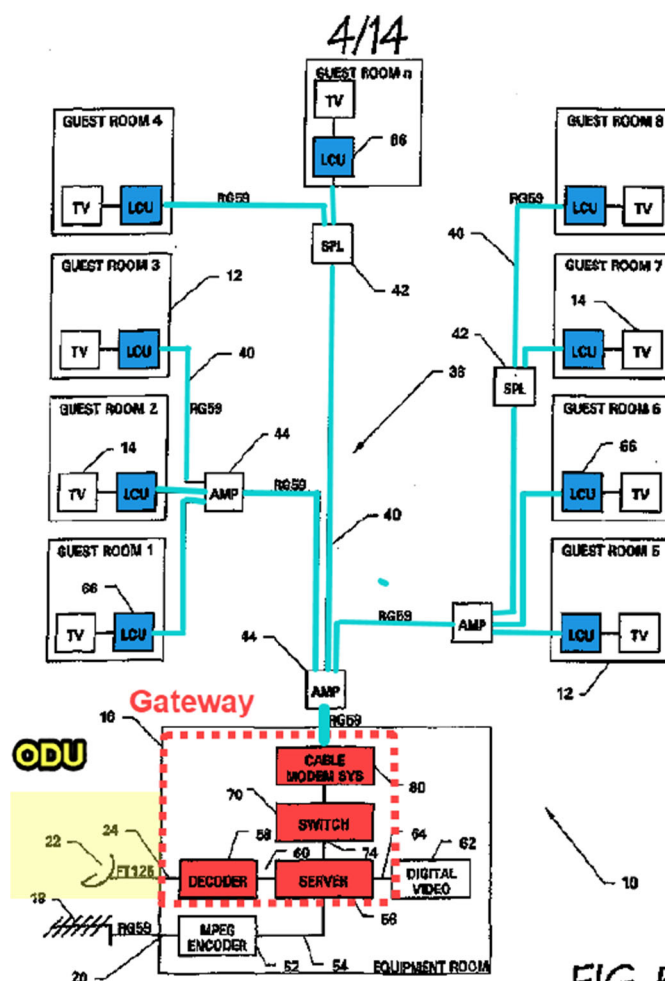


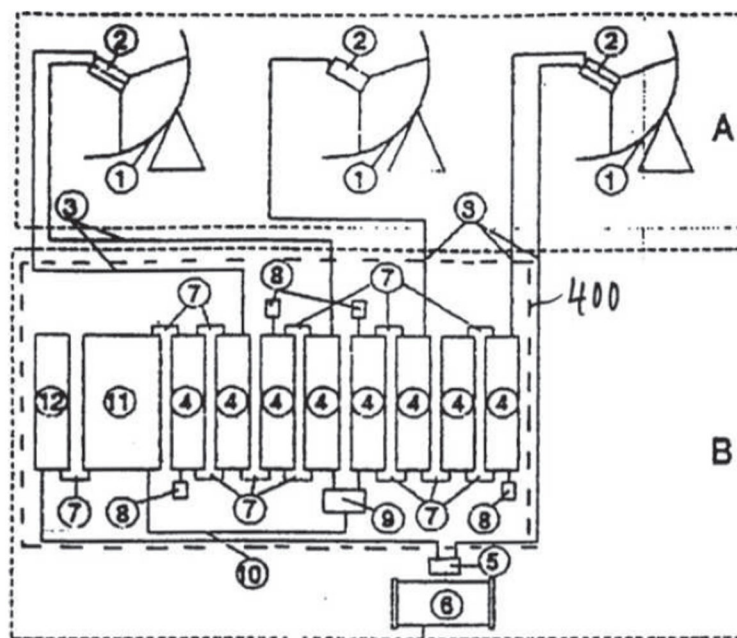
FIG. 5

Id., Fig. 5 (annotated). There are significant issues with the components on which the Petition relies. Most of the issues will be addressed in conjunction with the combination below. However, as an initial matter, Fisk’s use of STBs **202** (*i.e.*, part of the satellite decoders), as shown in Fig. 18 above, is significantly different than how STBs are used in the system of claim 9. In the claimed invention, the STBs are the ultimate consumers of the content signals from the gateway. But in Fisk, STBs are used to *provide* the content signals to the server **56**. The architectural difference is striking.

b. *The Identified Components of Carnero Fail to Meet Specific Claim Requirements*

Carnero discloses “a system for distributing signals, in particular, a community antenna system for distributing television signals of different channels” Ex. 1004, 2:3-4. The system of Carnero can be divided into three “blocks,” labeled A, B, C. *Id.*, Fig. 3. The Petition relies heavily on components found in Carnero’s signal processing unit **400**, which is block B. *See* Petition, 35-43.

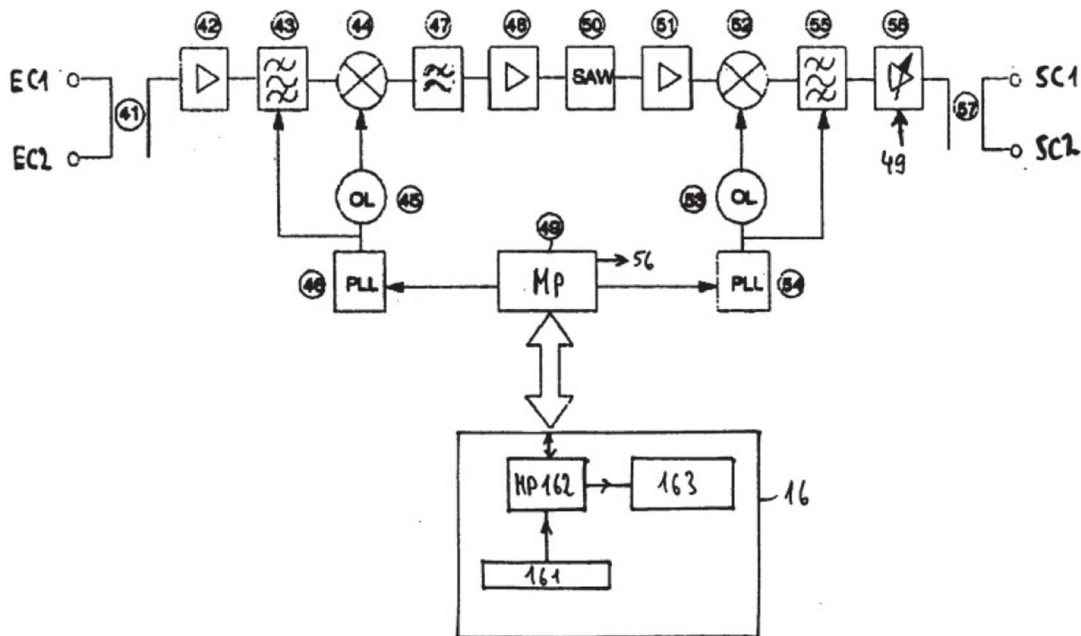
In partial Fig. 3 below, the signal processing block **400** includes a series of channel-specific converters **4** connected end-to-end to form a daisy chain. Ex. 1004, 5:4-9. The output of this chain of converters is fed into a mixer **5**. *Id.*, 10-12.



As depicted in Fig. 7 of Carnero, a single channel-specific converter **4** may be connected to a microprocessor **49** that, by controlling an amplifier **56**, controls the input and output frequency of the channel signal of that specific converter. *Id.*, 8:10-12. This microprocessor **49** can be connected to an input unit **16** through which the input and output frequency of a channel-specific converter **4** can be specified to a predetermined value. *Id.*, 8:13-15. The predetermined value is entered manually by a person. *See id.*, 8:21-23 (“The input unit 16 includes a keyboard **161**, the control unit **162** and a display **163**. The display shows data entered into the keypad **161**, operator guidance information, and information indicating the state of the converter after it is configured by the data entered.”). Finally, a remote-controlled transmitter with a transmitting device can be attached to the input unit **16**. *Id.*, 8:23-25 (“The input unit **16** may be designed as a remote-controlled transmitter with a transmitting

device, that transmits the data to be input to a receiver connected to the microprocessor 49 of the channel-specific converter.”).

The Petition relies heavily on the fact that Carnero discloses that a single channel-specific converter 4 may include a microprocessor 49 coupled to an input unit. Petition, 37-38. The Petition also feigns ignorance when it states that it is not clear how information is input into Carnero. *Id.*, 38. Carnero makes clear that a human operator manually enters the selection information (as to be expected from a community television system). When describing input unit 16, Carnero makes clear that it “includes a keyboard 161, the control unit 162, and a display 163” and depicts the same in Figure 7.



See Ex. 1004, 8:10-26, Fig. 7. Carnero also explains that the display shows “operator guidance information.” *Id.*

Also, the Petition states, “The input device may be ‘a remote-controlled transmitter’ to permit transmitting transponder selection information.” Petition, 37. This is yet another twisting of Carnero’s disclosure in a bald attempt to render obvious limitations of claim 9. As shown above, Carnero only provides that “[t]he input unit **16** may be designed as a remote-controlled transmitter with a transmitting device, that transmits the data to be input to a receiver connected to the microprocessor **49** of the channel-specific converter **4**.” Ex. 1004, 8:23-25. This disclosure does not change the fact that the input unit **16** still includes a keyboard and display; it only provides that the input unit **16** may wirelessly transmit the manually entered input information instead of using a wire.

2. The Petition Fails to Address the Incongruities that Result from Combining Fisk and Carnero

Ultimately, neither Fisk nor Carnero, nor any combination thereof discloses the claimed “transponder select information”. The Petition recognizes that Fisk relies on many wires and many decoders, and thus extracts part of Carnero and inserts it upstream of Fisk’s server. Yet two facts are dispositive and unavoidable: (1) there is no discussion in Carnero of selection commands beyond those manually entered via a keyboard/keypad, let alone any selection commands from the alleged gateway of the Petition’s combination; and (2) nothing in Fisk’s alleged “server” can send any command that alters the pre-determined, pre-programmed channels being

sent to the server from the ODU. These two points underscore how a POSITA *could not* and *would not* combine these references together when trying to implement the system of claim 9. However, the Petition attempts to overcome this fundamental incompatibility of these references by altering or ignoring portions of both Fisk and Carnero in a plain attempt to rearchitect the prior art into something it is not, and cannot be without looking to the '715 Patent to fill in the holes.

It follows that the Petition cannot establish an obviousness case for two reasons grounded in the law: (1) the combination of references does not render obvious each claim element; and (2) the incompatibility of the references establishes that the Petition's proposed combination is not "obvious." Instead of being obvious, the proposed combination of Fisk and Carnero is a hindsight reconstruction aimed at reconstructing the '715 Patent claims without any adequate motivation to combine.

a. *The Combination of Fisk and Carnero Does Not Disclose or Render Obvious "Transponder Select Information"*

The Petition alleges that the combined system render obvious a signal selector that "is responsive to transponder select information transmitted by the gateway." Petition, 37. According to the Petition, "[i]n the combined system of Fisk and Carnero, the source ('transponder select information') to Carnero signal processing unit **400** is provided by Fisk's server **56** (gateway) based on requests for programs

it receives from the LCUs” *Id.*, 38. Thus, the Petition alleges that a POSITA would combine the channel-specific converter **4** that includes a microprocessor coupled to an input unit of Carnero with the server **56** of Fisk. This argument fails for multiple reasons.

As an initial matter, the disclosure of Fisk does not support and, in fact, contradicts this combination. Fisk expressly disclaims “user-adjustable ‘tuner’ circuitry,” explaining that “down-link data will be specific to [each] box” and that “[an] LCU **66** will in effect be ‘tuned’ to one fixed channel, and the server **56** will ensure that the correct data is transmitted on that channel.” Ex. 1003, 33:22-24. Fisk’s server **56** does *not* communicate with (what the Petition calls) the ODU. The combination simply would not work.

Second, the combination ignores Carnero’s disclosure concerning the input unit **16**. As imagined in the Petition, Fisk’s server would provide transponder select information based on requests it receives from LCUs. Petition, 38. Because Fisk only discloses that the LCUs **66** can communicate to the server **56**, the Petition seems to suggest that somehow Fisk would utilize Carnero’s input unit **16** to wirelessly transmit transponder select information only to the server **56** and not the signal processing unit **400**. Not only is there zero disclosure in either reference about how this could be done—rendering it immediately not obvious—but it would mean that every LCU, or at least every server, would need to have an input unit consisting of

a keyboard, a control unit, and a display in order for customers to manually input the channel frequencies they want the channel-specific converters to “select.” This is absurd and does not make sense.

Furthermore, as discussed above, Fisk’s server **56** is incapable of sending communication upstream (*i.e.*, towards the ODU). Given that the Petition identifies the signal selector of Carnero as upstream from the server, the combination fails to render obvious the element of “a signal selector that . . . is responsive to transponder select information transmitted by the gateway” because the server **56** of Fisk cannot transmit transponder select information to the signal selector.

Third, combining Fisk and Carnero as the Petition proposes creates serious problems. Carnero is programmed to produce a single wire output with multiple predetermined content channels. Fisk’s server **56** expects—and requires—a separate wire input for each content channel, routed through the STB and/or satellite cards **188**. The Petition ignores this incongruity when trying to stitch the references together.

Fourth, the Petition’s suggested combination thoroughly undermines Fisk itself. Fisk’s server **56** distributes content in a community television system, where two things are expected: one, users are not able to choose whatever they want, and two, users are forced to accept the choices imposed by the community TV provider. And the system of Fisk must meet these expectations to ensure that users are not at

the mercy of other users—if ESPN is offered by the operator/provider, it is *always* available regardless what any other LCU might be watching.

As discussed *supra*, Fisk’s one-decoder-per-channel architecture means, if the server wants to access to a channel not provided by the existing decoders, then either a brand new decoder must be introduced or personnel must come along to the server room and change the channel. *See* Ex. 1003, 42:14-43:9. But this architecture guarantees that the *administrator* of the system (hotel or community cable)—not individual LCUs at individual TVs—controls the channel lineup.

However, the Petition’s mashup of Fisk and Carnero, destroys this guaranteed provision. If Fisk’s server **56** were somehow reimagined to send transponder select information to Carnero, the most that can be achieved is allowing the server **56** to dynamically replace an existing channel with another. This would deprive all other users of the replaced channel, without their consent and would undermine a fundamental expectation of Fisk’s community distribution system.

Once again, the architectural incongruities reveal themselves. Instead of combining Fisk and Carnero as described, the Petition takes a blind eye towards these incongruences and seeks to combine an idealized version of each reference.

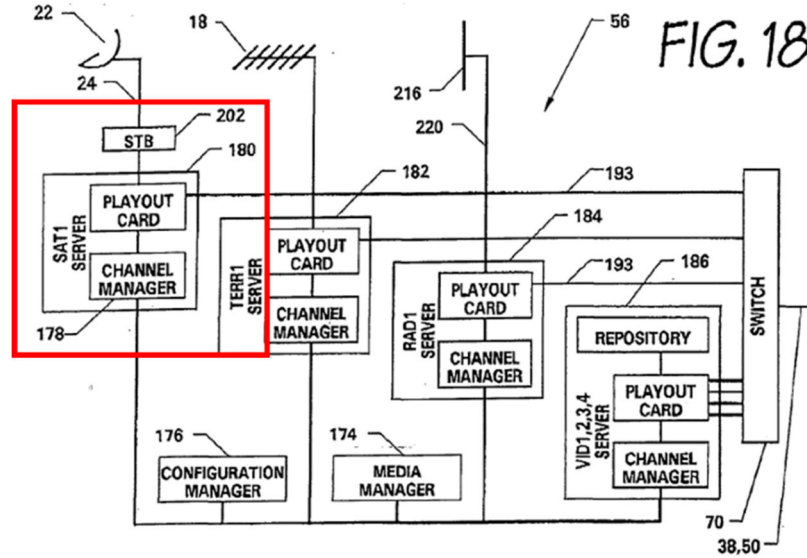
b. *A POSITA Would Not be Motivated to Combine Fisk and Carnero*

The combination's incongruities and failure to create a workable system also manifests itself legally as a lack of motivation to combine. A POSITA would never have the motivation to combine Fisk and Carnero. The Petition alleges "it would have been obvious to a POSITA in view of Carnero that server **56** could communicate with the *ODU* to provide information to the *ODU* to facilitate channel selection by the channel-specific converters of Carnero's *ODU*." Petition, 34. However, the Petition's proffered motivation to combine rests entirely on the following flawed statement:

If Fisk's server **56** receives signals directly from the satellite antenna without any intermediate signal processing, that would require server compatibility with hundreds of received programs on several cables, any number of those programs may be requested by receivers (LCUs), and thus would need to be accessible to server **56** for distribution.

Id., 28. This motivation is entirely unworkable and simply wrong.

The predicate of the motivation is false: Fisk *does* have intermediate signal processing in the form of the decoders (set-top boxes and/or satellite cards). Recall that decoder **58** is interposed between server **56** and the satellite transmitter **22**:



Ex. 1003, Fig. 18 (depicting the satellite decoder (red) interposed between the satellite transmitter **22** and the remaining server **56** components), *see also id.*, 20:23 (“Figure 18 is a block diagram of a server in the systems of Figures 4, 5 [upon which the Petition relies] and 10.”).

The Petition makes this false assumption for good reason—to avoid explaining why the POSITA would be motivated to rip out the existing decoders of Fisk to replace them with Carnero. Fisk already has decoders, and Fisk already has an apparatus to switch the programming delivered to the LCUs—the server **56**. A POSITA would have no reason to look to Carnero to fill gaps that do not exist in Fisk. Thus, Petitioners provide a motivation to re-invent, not a motivation to combine. This class of error is why the law requiring a real motivation to combine exists.

The Petition relies on another flawed assumption to support its deficient motivation to combine:

Fisk's decoder needs only receive a single input (the output of Carnero), and needs only tune to a specific frequency for each desired program so that the program could be demultiplexed from a transponder signal for distribution to a requesting LCU, no matter the number of programs received by the satellite receiver prior to processing by Carnero's channel selector.

Petition, 29. This assumption is false because Fisk does not have a monolithic decoder. Fisk has a separate satellite decoder for each and every satellite channel. If there are ten channels provided to Fisk's server, there are ten decoders. This is not a defect in Fisk. It fits perfectly with Fisk's invention—a central server making available to different users a set of channels chosen by a hotel or a community TV provider. If the hotel or providers want to make 100 channels available, Fisk admittedly needs 100 decoders. But Fisk is a centralized distribution system, and thus needs only one such set of decoders. Note also that Fisk's architecture protects the central assumption of the system—the users and their LCUs will always have access to the channels the hotel has chosen. One user cannot request a new channel from a decoder, replacing ESPN with Comedy Central, for example thus depriving all other users of ESPN. Petitioners say it is obvious for a POSITA to rearchitect Fisk with Carnero to destroy that functionality: if the satellite decoders of Fisk (in

the proposed combination) were able to dynamically tune to different channels, then one LCU could request Comedy Central instead of ESPN and every downstream LCU would no longer be able to view ESPN. And those LCUs already viewing ESPN would instead be switched abruptly to Comedy Central. This would completely destroy the purpose of Fisk.

Finally, in order to be motivated to combine Fisk and Carnero to arrive at the system of claim 9 of the '715 Patent, a POSITA would have had to ignore the express disclosure of Fisk, which:

- makes no mention of bilateral communication between the server 56 and ODU, *see* Ex. 1003, Figs. 19-20, 42:5-6, 43:12-13;
- expressly limits LCU communication only as far as server 56, *id.*, 33:22-24; and
- relies on changes in physical hardware (*e.g.*, installation of additional pre-programmed satellite decoders) to access additional transponder channels. *Id.*, Figs. 5, 6, 18, 21:5-10, 42:6-43:1.

These issues with the Petition's proposed combination fails to render claim 9 obvious because the combination fails to render obvious at least "[a] signal selector [] responsive to transponder select information transmitted by the gateway." Furthermore, there is no motivation to combine Fisk and Carnero.

In summary, Ground 1 is so full of incongruities and assumed motivations that it creates in the end, a system that undermines the disclosures of the very art it seeks to combine and fails to render claims 9-12 obvious. Therefore, Ground 1 fails.

B. Ground 2 Fails to Establish that Claim 9 Would Have Been Obvious Over Green and Davis

Ground 2 also fails to establish a likelihood of success. The architectural deficiencies are once again on display, and result in largely the same legally deficient bases for an obviousness challenge. The Petition's combination of Green and Davis is so convoluted that it obfuscates the deficiencies in the combination and forces PO (and the PTAB) to grapple with the poorly-defined, amorphous combination proposed by the Petition. Thus, to bring clarity—which when revealed demonstrates why institution should be denied, PO proceeds as follows: first, an overview of Green and Davis so that the Petition's arguments may be placed in the proper context; and second, an explanation of how the pieces of Green and Davis could not and would not be combined in the manner described in the Petition to render claims 9-12 obvious. Finally, PO explains why the relied upon portions of Davis are not entitled to the priority date of its provisional application, rendering Ground 2 null immediately.

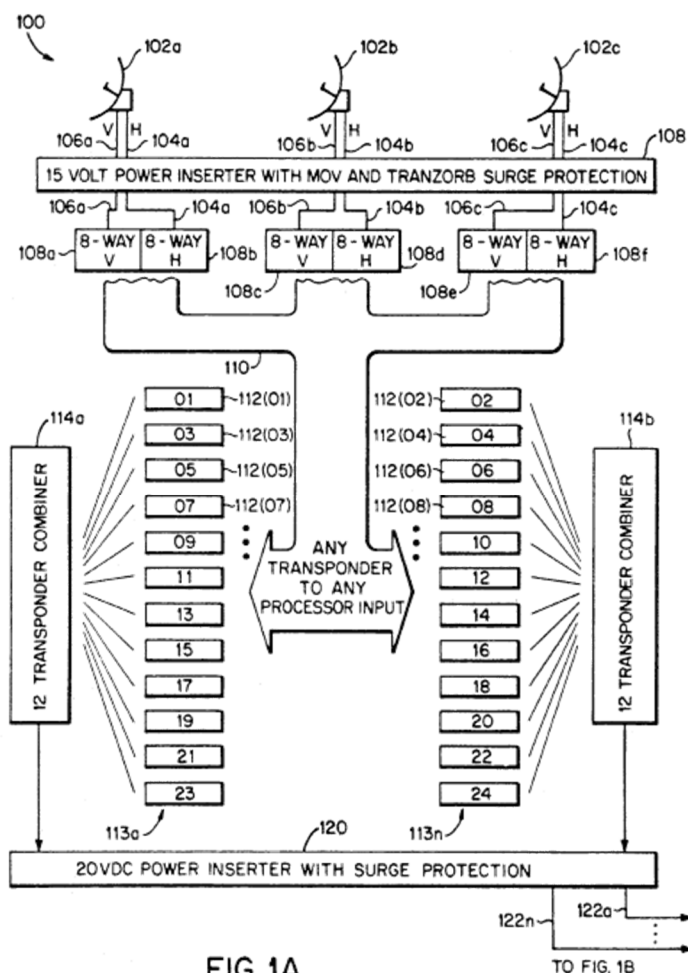
1. The Petition Fails to Identify Components from Green and Davis that Meet the Claim Requirements

As outlined *supra* at 11-12, the claimed “signal selector,” the claimed “composite signal,” and the claimed “gateway” have specific architectural requirements. The Petition fails to identify any components of Green or Davis (or the proposed combination) that meet these requirements. Among the deficiencies is the same one that fells Ground 1: the Petition fails to identify any component in either reference of Ground 2 that selects channels “responsive to transponder select information transmitted by the gateway.”

a. The Identified Components of Green Fail to Meet Specific Claim Requirements

As stated above, Green discloses an improved community television system. Specifically, Fig. 1A, depicted below, provides an overview of the preferred embodiment of Green, which would be found in a head end of a community television system. Ex. 1005, Fig. 1A, 9:22-23. This preferred embodiment is the embodiment upon which the Petition relies. *See* Petition, 52-62. In the preferred embodiment, Green discloses satellite antennas **102**, which include LNBs that downconvert the received satellite signals. Ex. 1005, 9:45-50. This is the ODU of the proposed combination. Petition, 52. The received signals are then sent from the ODU to an 8-way power splitter **108**, “which splits each transmission line signal into eight identical outputs isolated from one another” and each output of the power

splitter **108** is the input “of up to eight satellite transponder processors **112**.”
Ex. 1005, 9:57-64. These transponder processors **112** are arranged into banks **113**,
with Fig. 1A depicting two banks of 12 transponder processors **112** each.

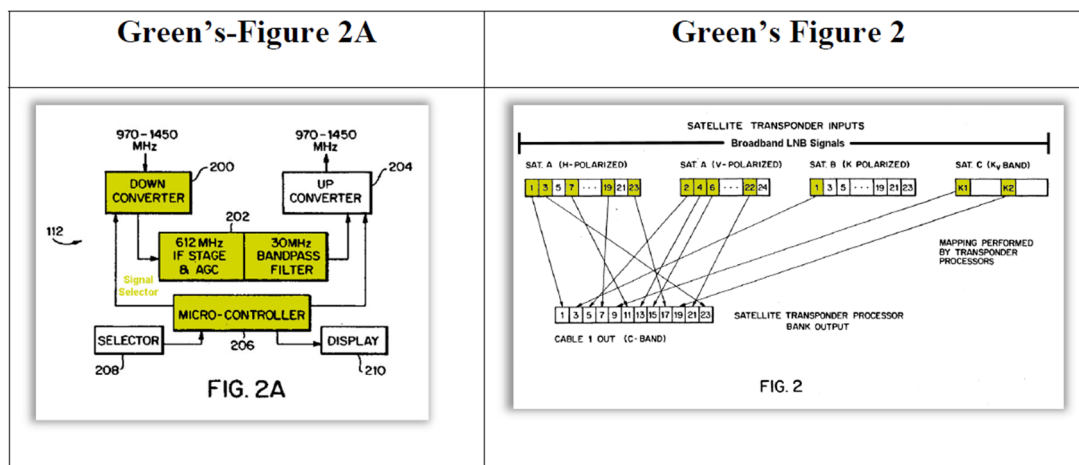


Id., Fig. 1A.

These two banks **113** of 12 transponder processors **112** are key to the
Petition’s combination (Petition, 55-57); however, the Petition imbues these
transponder processors **112** with capabilities that are not supported by the disclosure
of Green. According to the Petition, the transponder processors **112** perform signal

selection. *Id.*, 55 (citing Ex. 1005, 9:47-10:7, 12:11-27; Ex. 1002, ¶ 164) (emphasis omitted). The Petition then proceeds to state that the “transponder signal selection process is shown in Figures 2A and 2.” *Id.*, 56 (citing Ex. 1005, 8:53-54, 12:11-13:2; Ex. 1002, ¶¶ 165-66).

Based on the Petition’s reliance on Fig. 2A and the disclosure at 12:57-13:2, the Petition is implicitly relying on selector **208** and microcontroller **206** of the transponder processor **112** to be the “signal selector” of proposed combination that would be “responsive to transponder select information transmitted by the gateway.” However, the Petition refuses to explicitly acknowledge the selector, either in words or through its annotations:

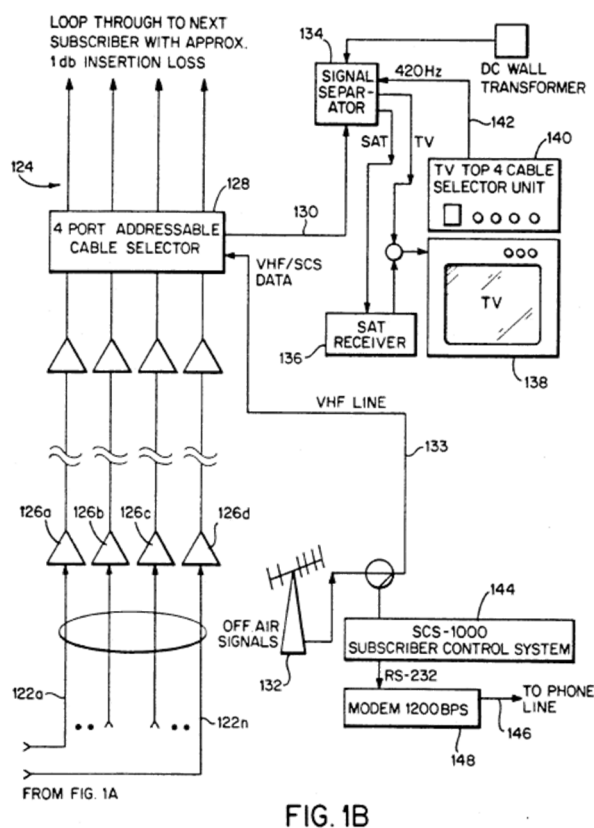


See id., 55 (displaying an annotated Figure 2A where the selector is not highlighted).

And the Petition must ignore the selector **208** because it undercuts the Petition’s argument that Green discloses a component that would be responsive to transponder select information. As Green states, “[s]elector **208** allows installation

and maintenance personnel to select any one of the input transponder signals to be down converted . . . and the transponder frequency to which a resulting selected signal is up converted . . ., while display **210** indicates the conversion frequencies that have been selected.” Ex. 1005, 12:64-13:2. Thus, it is clear that Green does not teach that the selector **208** would be in communication with any other component in the system.

Furthermore, as shown in Fig. 1B below, the only other components in Green that could potentially make a “selection” are the “4-Port Addressable Cable Selector **128**” or the “TV Top 4 Cable Selector Unit **140**.” Neither of these components can be the signal selector of claim 9 because they are selecting *cables*, not *channels*. Ex. 1005, 11:2-7 (“The 4-port addressable cable selector **128** is installed in line with network **124** at or near each subscriber location (that is, in the preferred embodiment an additional cable selector **128** is provided for each individual subscriber to permit each subscriber *to independently select between cables 122*).”); *id.*, 23:3-6 (“In the preferred embodiment, *TV-top controller 140 functions merely to control which of the plurality of cables 122* is selected by the 4-port addressable cable selector **128** associated with the subscriber.”).



Id., Fig. 1B.

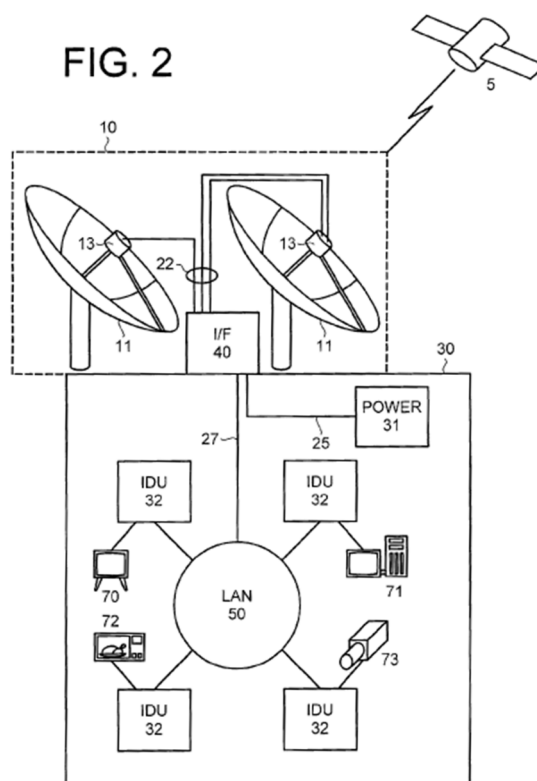
In sum, no component of Green can serve as the signal selector of claim 9 because there is no disclosure that would make it obvious to a POSITA that any component of Green would be “responsive to transponder select information.”

b. *The Identified Components of Davis Fail to Meet Specific Claim Requirements*

Davis discloses a “satellite communication system” as depicted in Fig. 2 below. The invention of Davis is an interface device **40** that “connects the LNB **13** of an ODU **10** to multiple IDUs in conjunction with a wired LAN **50**.” Ex. 1006, ¶ 37. Furthermore, “each IDU **32** is associated with one or more satellite services.

Such services may with include satellite television **70**, satellite based Internet service for a device **71**, diagnostics/maintenance of appliances **72**, and home security **73**.”

Id., ¶ 39.



Id., Fig. 2.

In an exemplary embodiment depicted in Fig. 5, the “LNBS **13** of an ODU **10** are connected via cables **22** to input/output ports on an LNB interface **41**. The LNB interface **41** is connected to a received signal processing and encryption unit **44** and a transmission signal processing unit **42**, which are both connected to a network protocols and services processing unit **45**.” *Id.*, ¶ 40.

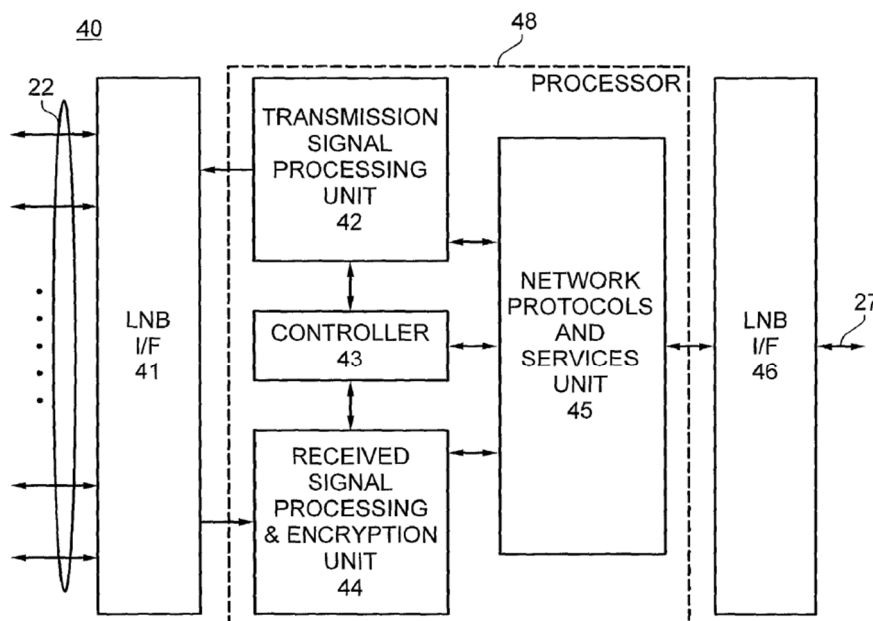


FIG. 5

Id., Fig. 5.

For signal processing, the LNB interface **41** may include “a tuner/demodulator pair” that “processes an RF input from each cable **22** and produces a corresponding digital output.” *Id.*, ¶ 41. The digital output then may be sent to the received signal processing and encryption unit **44**, where a range of signal processing may occur such as: conversion into a digital baseband signal, filtering, encrypting. *Id.*, ¶ 45. Next, the network protocols and services unit **45** may employ point-to-point communications to transmit packets of the baseband signal directly to the IDU **32** for which the signal is intended via the wired LAN **50**. *Id.*, ¶ 47.

In another embodiment, “a plurality of IDUs **32** (PCs) configured for satellite Internet service can receive content from the same satellite antenna **11** without

requiring a plurality of cables running from the ODU **10** to the IDU.” *Id.*, ¶ 55. Davis further discloses that the IDU **32** “can transmit requests over the same cable connection, which connects the data bus of LAN **50** to the ISP.” *Id.*, ¶ 55. However, when further discussing satellite based ISPs, Davis also discloses that “requests for digital content may be transmitted from an IDU **32** over the LAN **50** to interface device **40**, which *forwards the request to an antenna 11 for transmission to a satellite 5.*” *Id.*, ¶ 56. Thus, these requests are transmitted from the home to a space-based satellite, not to any selector at the ODU.

The Petition alleges that Davis’ interface device **40** is the gateway of the combination because, among other things, the interface device **40** “receives request information from the IDUs for content.” Petition, 53 (citing Ex. 1006, ¶¶ 55-56). Further, the Petition states that “Davis explicitly teaches that IDUs (*e.g.*, STBs) transmit requests to the ODU ‘over the same cable connection’ as the IDU receives transponder signals.” *Id.*, 57 (citing Ex. 1006, ¶ 55).

The Petition’s reliance on interface device **40** is misplaced for the interface device **40** fails to meet multiple claim requirements. As an initial matter, the interface device **40**, as it exists in the system of Davis, does not receive a composite signal. As depicted in Fig. 2, the output of LNBs in the ODU go directly to the interface device **40**, specifically into the LNB interface **41** of the interface device **40**. This makes sense given that Davis is intended to be installed at a user’s home in

connection with the satellite dish. However, by receiving the output of LNBs, the interface device **40** does not meet requirement that the requirement that “the composite signal [be] transmitted to the gateway.” Ex. 1001, claim 9[f].

The LNB interface **41** also cannot be the signal selector because it alters the modulation of the LNB signals from the ODU, which conflicts with the plain language of claim 9. *Cf. id.*, claim 9[g] (“wherein the modulation of the composite signal is the same as the modulation of the broadband LNB signals”). The LNB interface **41** demodulates the received outputs, and then packetizes the outputs for distribution over a LAN to one or more indoor units (IDUs). Ex. 1006, ¶¶ [0037], [0039], [0041], and [0046]. This demodulation clearly disturbs the satellite modulation (indeed, it removes it entirely), and therefore, Davis does not disclose “wherein the modulation of the composite signal is the same as the modulation of the broadband LNB signals.”

Finally, the Petition relies on paragraphs 55-56 as the basis for transponder select information being sent to the signal selector over a single cable to request transponder signals. Petition, 53 (citing Ex. 1006, ¶¶ 55-56); *also id.*, 57. However, these paragraphs do not disclose anything that could render the transponder selection information obvious. First, paragraph 55 states that requests for content can go directly from the wired LAN 50 to the ISP, not to the signal selector. *See* Ex. 1006, ¶ 55. This disclosure simply represents upstream internet data transmissions. This

is entirely different than, and thus entirely irrelevant to, claim 9 where the transponder select information is communicated to a component within the claimed system—the signal selector—whereas Davis teaches communicating the request to a component external to the system—the ISP. Sending the request to a component outside the system of Davis makes sense because no system component disclosed by Davis has the ability to select channels.

Second, paragraph 56 discloses that the IDUs can transmit a request to the interface device **40**, which then forwards the request to an antenna **11** for transmission to a satellite **5**. *Id.*, ¶ 56. From this vague statement, the Petition argues that the combination would have the ability to request content. *See* Petition, 53 (citing Ex. 1006, ¶¶ 55-56) (“Interface device **40** . . . receives request information from the IDUs for content”). Again, in these two paragraphs, Davis discloses requesting content from an external source (*i.e.* an ISP), not specific content that the ODU has already received. The ’715 Patent is clear that the system of claim 9 is selecting amongst the channels received by the ODU. *See* Section II *supra*. Therefore, Davis’ requests are fundamentally different than the transponder select information of the ’715 Patent.

2. The Petition Fails to Establish A Likelihood of Success on Ground 2

As with Ground 1, Ground 2 fails in its objective to reconstruct the claimed invention. Nothing in Green nor Davis discloses transponder select information sent from a gateway to a signal selector. The combination of the references cannot sum together to produce this missing element either. Furthermore, the Petition cannot articulate a motivation to combine in view of the architectural incongruities of Green and Davis. This is because one cannot demonstrate that a POSITA is motivated to combine two inherently incompatible architectures.

a. *The Combination of Green and Davis Do Not Disclose or Render Obvious Transponder Select Information*

The Petition alleges that the “transponder signal selection process is shown in Figures 2A and 2” of Green. Petition, 56 (citing Ex. 1005, 8:53-54, 12:11-13:2; Ex. 1002, ¶¶ 165-66). Specifically focusing on the transponder select information, the Petition alleges that “in the combined system of Green and Davis, it would have been obvious to a POSITA that Green’s transponder processors would select transponder signals based on the transponder select information of IDUs (STBs) by way of interface device 40.” *Id.*, 56. The Petition further alleges that, in view of Davis and the prior art, “a POSITA would have been motivated to modify Green’s transponder processors to utilize transponder select information to determine which transponder signals to select, and to modify Green’s STBs to transmit transponder

select information for selecting content desired by the STB, as taught regarding Davis's IDUs” *Id.*, 57 (citing Ex. 1002, ¶¶ 168-70).

Nowhere in the foregoing passage of the Petition does it identify where either Green or Davis disclose transponder select information. Focusing first on Green, the cited figures and portions of Green rely on the disclosure concerning selector **208**. Again, selector **208** is manually programmed by “*installation and maintenance personnel*” to select transponder signals. Ex. 1005, 12:64-13:2. Dr. Schonfeld even acknowledges this. Ex. 1002, ¶ 165 (“The selector **208** receives input (*e.g., from a person*) indicating the transponder signal and received frequency of the selected channel to enable selection.”). However, two paragraphs later in his declaration, Dr. Schonfeld makes an internally inconsistent statement when he states: “Green does not detail why transponder processors **112** select specific transponder signals, except that it can be done by ‘installation and maintenance personnel.’” *Id.*, ¶ 167. Thus, Dr. Schonfeld purposefully ignores the explicit disclosure of Green in order to facilitate the Petition’s argument that signal selection can be made responsive to transponder select information transmitted by another system component. Dr. Schonfeld also ignores the fundamental design of a community television system, which purposefully does not allow for users to select channels and therefore, channels must be selected by a system operator.

As for Davis, it does not disclose transponder select information either. Claim 9 requires that the transponder select information be communicated from the gateway to the ODU. However, Davis provides a single unit that serves the functions of both the gateway and the ODU. Thus, Davis does not disclose transponder select information because the system has no need for transponder select information. Because neither Green nor Davis disclose any feature that could serve as the transponder select information, the Petition cannot identify any feature to serve as the transponder select information.

Even if something can be found as the basis for transponder select information, the proposed combination would still fail to render obvious claim 9 because the combined system could not communicate the transponder select information to the ODU. Dr. Schonfeld acknowledges that Green cannot communicate information from Green's STB back to the transponder processor **112**: "While Green discloses that a selector unit **140** associated with a given satellite receiver **136** requests a signal bearing a block of transponder signals, those requests are received locally by a cable selector **128**, rather than in a gateway or ODU." Ex. 1002, ¶ 167 (citing Ex.1005, 11:7-16, Fig. 1B).

Thus, to combine Green with Davis as the Petition suggests, a POSITA would have to undertake a significant redesign of Green. The POSITA would have to rip out the majority of Green's components including the ODU, entire banks **113** of

transponder processors **112**, and a single transponder combiner **114**. Furthermore, if the transponder processors **112** of Green are to be made responsive to transponder select information, a POSITA would need to redesign the selector **208** and microprocessor **206** to receive an input other than a manually-programmed input. Once redesigned, a POSITA would also need to figure out how to route the requests from the interface device **40**, through the transponder combiner **114**, to the selector **208** of every transponder processor **112** in the bank **113**. Thus, a POSITA would have to figure out how to rearchitect the entire system of Green just to facilitate the transmission of transponder select information to the ODU. This would take significant effort.

Overall, impermissible hindsight to arrive at the claimed invention appears to be the only reason a POSITA would undergo this significant redesign of Green and then combine the stripped-down Green with Davis in the manner described in the Petition. This use of hindsight is improper and a grounds to deny institution. *Mylan Laboratories Limited v Aventis Pharma*, IPR2016-00627 (PTAB Aug. 23, 2016) (Paper 10) (denying institution because Petitioners ignored teachings of the relied upon references and instead, applied impermissible hindsight bias to support its proposed combinations). Accordingly, there is not a reasonable likelihood that Petitioners will prevail on Ground 2. *See Nautilus Hyosung Inc. v. Diebold Self-service Systems division of Diebold*, IPR2016-00633, Paper 9 at 21 (PTAB Aug. 22,

2016) (“[a]n assertion that something could be done does not articulate a reason why something would be done by one of ordinary skill in the art at the time of the invention and, therefore, raises a specter of impermissible hindsight bias in an obviousness analysis.”)

b. *A POSITA Would Not Be Motivated to Combine Green and Davis.*

Given this significant effort, a POSITA would not be motivated to combine Green and Davis, especially not in the way alleged by the Petition. Consider at the architectural level what the Petition proposes. The portion of Green selected by the Petition is designed to distribute signals to (feed into) set-top boxes—the ultimate signal consumers. Meanwhile, the interface device **40** of Davis is designed to do the same thing—serve the ultimate signal consumers. Realizing that neither reference comes close to the claimed invention, the Petition asserts that a POSITA would find it obvious to take a reference designed to distribute signals and feed the *set-top boxes* (Green), recognize it is all wrong, strip it for parts, and re-deploy it to instead feed signals to *another distribution system*—the interface device **40** of Davis. The Petition literally argues that it is obvious to take two distribution systems that stand on their own, and instead daisy chain the output of (part of) one to feed into the other. This is a paradigm of legally impermissible hindsight.

Turning to the details, as an initial matter note that Green's preferred embodiment discloses a complex wiring scheme that requires multiple, separate banks of transponders processor to ensure that the same block of FM television channels is distributed throughout the system. Ex. 1005, 9:61-68. In fact, Carnero even recognizes that the community television system architecture of Green is "complex, in terms of circuitry." Ex. 1004 at 2:44-53. Although the Petition states that a POSITA would seek to combine Davis with Green to "improve the efficiency" of Green, the Petition offers no explanation as to why a POSITA would look to the teachings of Davis—which discloses a fundamentally different architecture than Green—to improve Green.

In fact, Green disparages some of the teachings of Davis: specifically, demodulating the LNB output of an ODU before distribution and using a single wire to distribute signals. For demodulation, Green effectively disparages using demodulation by stating that a "highly advantageous feature[]" of the invention is the "[d]istribution of FM satellite transponder signals (as opposed to conventional distribution of AM NTSC signals) to provide superior picture and sound quality as well as full compatibility with standard mass-produced satellite receivers." Ex. 1005 at 6:33-34, 6:54-58.

Furthermore, Green's disparagement of demodulation also means that Green does not require any gateway (i.e. the interface device of **40** Davis) to facilitate

demodulation prior to reaching the customer's television. The Petition fails to explain why a POSITA would seek to combine Green with an interface device when Green disparages using demodulation prior to distribution and when Green specifically states that demodulation is not necessary.

As to using a single cable to distribute the output of multiple transponder combiners **114**, Green theorizes that “up conversion might be used to multiplex these various signals onto a single cable, [but recognizes that] such additional frequency conversion techniques would *increase the cost and complexity* of the preferred embodiment distribution system **100** and *make some of the distributed signals incompatible* with standard satellite receivers.” *Id.*, 10:58-63. Additional cost, complexity, and making the invention incompatible with standard receivers all weigh against combining Green with the interface device **40** of Davis and contradicts the rationale provided by the Petition. This passage clearly teaches away from combining signals from multiple transponder blocks onto a single cable. Green is so convinced that a single cable will not work given that it uses multiple cables (*e.g.*, four cables) and goes to the trouble of adding additional equipment in amplifiers **126** (one amplifier *per cable* **122** is needed), selectors **128**, and selector units **140**. *Id.*, 10:44-11:5, 11:54-63, Fig. 1B.

Taking a step back, the Petition is effectively arguing that a POSITA would be motivated to take the aesthetically-displeasing-, large-, complex-, and costly-

community TV system architecture, an architecture designed to provide satellite television signals to entire areas, and place it on *every home* that wants satellite television. This means that the Petition alleges that a POSITA would be motivated to take all the components depicted in Fig. 1A, that are normally found in a head end of a community television system, *id.*, 9:19:28, and install them on a customer's house to improve efficiency. Furthermore, the Petition is asserting that a POSITA would look to Davis, which requires *multiple inputs* in order to provide content to the IDUs, and decide it should only extract a *single input* from Green, directly contrary to Green's express teaching and explanation of its use of four cables (as discussed *supra*). *Id.*, 10:44-63. This would effectively give Davis less content to distribute.

Thus, to the extent the Petition offers the "articulated reasoning" of improved efficiency for its proposed motivation to combine Green and Davis, it lacks a "rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Overall, the guise of increased efficiency is a fabricated motivation to combine two architectures that are not compatible.

3. The Relied Upon Portions of Davis are NOT Prior Art to the '715 Patent

Key portions of Davis upon which the Petition relies were not disclosed in Davis' provisional application and therefore cannot be used to support an

obviousness argument. Davis was filed on April 15, 2002, almost two months after the priority date of the '715 Patent—February 22, 2002. Therefore, the only way the disclosure of Davis can constitute prior art against the '715 Patent is if the disclosure is supported by an underlying provisional application—U.S. Provisional Patent Application No. 60/284,593, filed April 18, 2001 (the “Davis Provisional Application”). Ex. 1029. Critically, the Davis Provisional Application fails to provide support for sending a request of paragraphs 55-56, much less transponder select information.

Dr. Schonfeld’s priority analysis is cursory and consists simply of a table with excerpts of the Davis Provisional Application rather than any explanation of why the passages cited actually support the elements relied upon in Davis. According to Dr. Schonfeld, paragraphs 55-56 find support in the following passages of the Davis Provisional Application. First, the provisional application states, “This invention replaces these cables with one (power) or two (power plus phone, or power plus wired LAN), using industry standard interface mechanisms, while simultaneously greatly increasing the flexibility of the installation to allow future services without adding any new cables.” Ex. 1002, App. C, 20 (quoting Ex. 1029, 4/11). Next, Dr. Schonfeld quotes a bullet list that discusses minimizing cables from the ODU and any IDUs. *Id.* (quoting Ex. 1029, 6/11). Finally, Dr. Schonfeld quotes the following passage: “Data to be transmitted over the satellite and control data for the receivers

in this invention is sent over the LAN to the unit from the transmitting IDU. A cable connectin [sic] exists from this invention to the transmitter on the ODU, as is current practice.” *Id.* (quoting Ex. 1029, 8/11).

Given the scarcity of Dr. Schonfeld’s analysis, PO is left grappling with where in the Davis provisional does it disclose sending requests from an IDU to the signal selector of an ODU. Although the provisional application provides that “[a] cable connection exists from this invention to the transmitter on the ODU, as is current practice,” there is no disclosure of sending requests to the components inside the ODU. This lack of disclosure falls far short of describing the relied upon disclosure “in such full, clear, concise, and exact terms” in accordance with the written description requirement of 35 U.S.C. § 112, ¶ 1. *See Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1380 (Fed. Cir. 2017) (citing *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015)). In other words, for written description support to be adequate, the description in the earlier application must “clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). Thus, the provisional would have needed to “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.*

The complete omission of any disclosure discussing a request to the ODU for specific transponder channels fails to show that as of the Davis Provisional Application, that the inventors had possession of the ability to communicate transponder selection information. Furthermore, Dr. Schonfeld offers no analysis to explain how any of the three passages cited in his declaration offer support for the “request” that the Petition cites as a basis for rendering obvious “transponder select information.” Because of the Petition’s complete failure to adequately show how there is written description support for the disclosure found in paragraphs 55-56, it is not prior art and cannot be used to render obvious claim 9. For the foregoing reasons, Ground 2 fails.

C. Grounds 3 and 4 Should be Dismissed Because Entropic has Disclaimed Claims 1-8 and 13-19

Entropic has filed a statutory disclaimer of Claims 1-8 and 13-19 before the USPTO under 35 U.S.C. § 253(a) on May 12, 2023. *See* Ex. 2001. Therefore, Grounds 3 and 4 of the Petition have been rendered moot. *See Samsung Electronics Co., Ltd. v. Elm 3DS Innovations, LLC*, IPR2016-00389, Paper 14 at 14 (PTAB June 30, 2016) (citing 37 C.F.R. § 107(e)). Since Claims 1-8 and 13-19 have been disclaimed, the Board shall not consider Grounds 3 and 4 when exercising its discretion to institute the Petition. *See General Electric Company v. United Technologies Corporation*, IPR2017-00491, Paper 9 (PTAB July 6, 2017)

(precedential) (denying institution where patentee disclaimed the challenged claims under 37 C.F.R. §42.107(e)).

Entropic has filed the aforementioned disclaimer exclusively for the purposes of simplifying the issues before the Board. Accordingly, the aforementioned disclaimer shall not constitute a concession of the alleged obviousness of Claims 1-8 and 13-19. *See Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1379, n.4 (Fed. Cir. 2021) (“[d]isclaimed claims are treated as if they never existed...and disclaimer does not legally constitute an admission that the subject of the disclaimer appears in the prior art.”).

IV. CONCLUSION

For the reasons set forth above, the IPR should not be instituted.

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Certification of Word Count Under 37 C.F.R. § 42.24(d)

The undersigned hereby certifies that the foregoing contains 11,288 words according to the word count of the word-processing software used to prepare the foregoing.

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CERTIFICATE OF SERVICE

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