

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

DECENT ESPRESSO INTERNATIONAL LTD.,
Petitioner,

v.

DUVALL ESPRESSO IP ENFORCEMENT, LLC,
Patent Owner

Case IPR2024-01483

U.S. Patent No. 11,576,524

**PETITIONER'S REPLY TO PATENT
OWNER'S PRELIMINARY RESPONSE**

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

This Reply addresses arguments in Patent Owner's Preliminary Response (Paper No. 13, "POPR").

I. Claim Construction – “Communicatively Coupled”

Patent Owner's ("PO") proposed construction of "communicatively coupled" (at POPR pp. 10-11) is overly narrow, attempts to limit the claim based on an optional embodiment, and misinterprets the intrinsic and extrinsic evidence.

First, the term "coupled" is explicitly defined in the specification as "connected, although not necessarily directly, and not necessarily mechanically." *See* Petition p. 14. Thus, the applicant provided the meaning of "coupled."

So, the question presented in PO's claim construction request is the proper meaning of "communicatively" as an adjective. Without support, PO suggests that "communicatively" means "so as to electronically control performance." POPR p. 11. Yet the terms "electronic" and "electronically" do not appear in PO's specification citations. *Id.*

In contrast, the term "fluid communication" appears twelve times in the specification and six times in the claims. *See, e.g.,* Ex1001 Abstract, 3:20-35, 11:22-39, etc., claims 1, 5, 6. It is apparent that the '524 patent applicant did not limit "communication" to "electronically control" as suggest by PO's proposed construction. Moreover, where the controller was configured to control something, the '524 patent applicant separately used the claim term "operably configured to []

modulate,” showing a marked difference between communication and control.

See, e.g., Ex1001 claims 1, 3-6, 8-10, 12. The intrinsic evidence does not support limiting the term to electronic control.

Similarly, the extrinsic evidence does not support PO’s proposed limitations. As noted at Petition pp. 42-43, the dictionary definition of “communicate” has multiple meanings, including (a) transmitting information and (b) opening into each other. For example, a sensor may transmit information mechanically, optically, through wireless networks, etc., without requiring any electronic communication. As a further example, a sensor may transmit information without requiring any control mechanism. As yet a further example, a pump may open into a sensor such that the coupling between the two allows them to communicate. Finally, neither “control” nor “electronic” form any portion of the definitions of “communicate” that are in the record of this proceeding. *See e.g.*, Ex. 1017.

Even prior art in the field supports a broader construction of “communicate.” For example, U.S. Pat. App. Pub. No. 2011/0097454A1 uses “communicating”, “communicates”, and “communication” to describe connections between components that allow fluid flow that are neither “control” nor “electronic.” *See, e.g.*, Ex1018 at ¶¶0007, 0041, 0043, 0046, 0100, claims 1, 6. The communication described in Ex1018 relates to hydraulic circuits, not electronic control.

PO’s proposed construction of “communicatively coupled” should be

rejected, and the term should be given its plain and ordinary meaning, consistent with the applicant's definition of "coupled" and the dictionary definition of "communicate."

It appears that PO has proposed its unsupported construction of "communicatively coupled" to support PO's arguments that the Startz prior art does not disclose the claimed electronic controller and that Startz does not disclose the elements of, e.g., claim 2. However, as shown at Startz FIG. 1, the block diagram shows a controller 14 as a block, adjacent to a symbol representing pump 8. Startz states, "Provision can furthermore be made for a control device 14, which controls/regulates the bypass flow pump 8 as a function of a flow volume, a beverage temperature at the dispensing location 6 or a water temperature in the water tank 5." Ex1004 ¶0018. Yet despite this, both PO and its purported expert/owner/named inventor state that Startz does not disclose an electronic controller that "is communicatively coupled (i.e., connected so as to electronically control performance) to both pumps and a thermal modulated ¹ ..." POPR p. 23; Ex2001 p. 23.

And PO seems to ignore the language of claim 2 which is directed to "at

¹ This typographic error appears in both the POPR and the purported expert's declaration.

least one solvent flow meter communicatively coupled to the first and second solvent pumps.” Ex1001 claim 2. While this language would permit coupling via a controller, it does not require such coupling. Rather, a hydraulic circuit without any electronics and without any control mechanism might satisfy the limitations added in claim 2.

In view of the arguments presented herein and at Petition pp. 42-43, Petitioner respectfully requests that “coupled” be given the applicant’s definition (*see* Petition p. 14) and that “communicatively” be given its plain and ordinary meaning, rather than being restricted to “so as to electronically control performance.”

II. PO’s Mischaracterization of Prior Art

PO mischaracterizes Startz (Ex1003, Ex1004) as providing a second heater 16 and bypass pump 8 solely for descaling. POPR pp. 13-14 (“[T]he heating device 16 is solely used ... to prevent buildup, mineral deposits, etc. ... (i.e., descale it). ... [P]ump 8 takes heated solvent from the heating device 16 ... to descale it ...”). However, Startz explicitly discloses that different mixing temperatures can be regulated and that heating device 16 can be used for that purpose. *E.g.* Ex1003 col. 3:52-4:22. Startz states, “Provision can furthermore be made for a control device 14 which controls/regulates flow pump 8 as a function of ... a beverage

temperature at the dispensing location 6 or a water temperature in the water tank 5.” *Id.* Startz states that “By changing the capacity at the bypass flow pump 8 or by pulsing this bypass flow pump 8, different mixing temperatures can furthermore be generated...” *Id.* And Startz continues, “It is furthermore possible to preheat the bypass flow path 4 and thus to generate pause compensations...” *Id.* Descaling is listed as an alternative to this generation of different mixing temperatures; descaling is not the sole use of heating device 16. *Id.* (Notably, even if descaling were the sole use of heating device 16, the claims of the ‘524 patent are directed to a device configuration without regard to the use of the device; they could be used in a descaling operation.)

PO also mischaracterizes the Startz reference as not stating that pumps 7 and 8 can be controlled by the controller. POPR p. 22 (“The Prior Art does not teach or render obvious a brewing assembly having an electronic controller communicatively coupled to the first and second solvent pumps and the at least one thermal modulator”). Startz, however, explicitly discloses that such control is contemplated, “[T]he bypass flow pump 8 and/or the main flow pump 7 can be embodied ... as magnetic piston pump, ... an accurately controllable pump.” Ex1003 col. 3:46-50. That is, both pumps can be “accurately controllable pump[s].” Startz further explains that both pumps’ outputs can be controlled accurately: “The mixing portion and thus the admixing quantity of the bypass flow

pump 8 can be controlled accurately...” Ex1003 col. 3:63-65. (Note: the “mixing portion” must inherently be provided by pump 7 if the “admixing portion” is that portion provided by pump 8, as Startz’s system only has two flow paths, i.e., main flow path 3 and bypass flow path 4.)

PO further mischaracterizes the Startz reference as stating that control was provided by the pump itself. POPR p. 25. Contrary to this, Startz explicitly discloses that pumps can be controlled (*see* previous paragraph) and discloses “a control device 14” that is not part of the pump. Ex1003 col. 3:52-54. Startz claims “a control device that controls the bypass flow pump as a function of beverage temperature at the dispensing location and at least one of a flow volume, and a water temperature in the water supply.” Ex1003 claim 1. This claimed control device would require control outputs to the pump and inputs of one or two temperatures and possibly a flow volume.

Petitioner further mischaracterizes the disclosures of the Lai, Santi, and Majer art at POPR pp. 26-28. For example, PO suggests that Lai’s “pump adjusts by itself.” POPR p. 27. As expert Tinkler’s testimony shows, this is not what one of ordinary skill would have understood. *See* Ex1002 ¶¶42, 81. Instead, as Lai discloses, a flow meter is electrically coupled to the PCB and flow rate signals are relayed to the control panel so that the correct amount of coffee is dispensed. Ex1007 at ¶82. A person of ordinary skill would have understood that this is based

on the PCB/control panel controlling the pumps based on the flow rate signals, not based on a pump controlling itself based on some unexplained, unknowable feature proposed by PO. Petitioner was not granted a sufficient number of pages to explore PO's mischaracterizations of Santi and Majer, but requests that the Board take a critical eye to PO's attempts to mischaracterize those references.

PO also mischaracterizes expert Tinkler as not having design experience. POPR p. 31. However, Tinkler explicitly testified that he had many years of coffee machine design experience. Ex1002 ¶¶10-13.

Finally, Petitioner notes that PO's purported expert is not independent, but is the owner of PO and the named inventor of the challenged patent. PO's purported expert is not a person of ordinary skill in the art and offered opinions based on the wrong standard of proof, i.e., clear and convincing evidence. Ex2001 ¶16 ("I understand that the clear and convincing evidence standard applies to all aspects of an allegation of anticipation or obviousness..."). PO's purported expert testimony should be given little weight.

III. Conclusion

As set forth in the Petition and this reply, the IPR should be instituted on all requested grounds.

Respectfully submitted,

By: /s/ Perry S. Clegg/

Perry S. Clegg, Reg. No. 65,304

Appendix of Exhibits for IPR2024-014992 - U.S. Patent 11,576,524

Exhibit	Description
1001	U.S. Patent No. 11,576,524
1002	Declaration of Ian Tinkler, dated September 24, 2024
1003	U.S. Patent No. 8,973,487 B2 (collectively with Ex1004, “Startz”)
1004	U.S. Patent Application Publication No. 2012/0291634A1 (collectively with Ex1003, “Startz”)
1005	U.S. Patent Application Publication No. 2014/0053734A1 (“Santi”)
1006	International Publication No. WO2012/146660A1
1007	U.S. Patent Application Publication No. 2012/0171332A1 (“Lai”)
1008	International Publication No. WO2011/151703A2 (“Majer”)
1009	U.S. Patent Application Publication No. 2014/0069279A1 (“Upston”)
1010	International Publication No. WO2012/151629A1
1011	International Publication No. WO2011/158131A1 (“Porzio”)
1012	File History for U.S. Patent Application Serial No. 61/742,688
1013	File History for U.S. Patent Application Serial No. 17/020,799
1014	U.S. Patent No. 10,772,456
1015	Patent Owner Infringement Contention Pleading
1016	Patent Owner Claim Chart for 524 Patent
1017	Communicate Definition & Meaning - Merriam-Webster
1018	U.S. Patent Application Publication No. 2011/0097454A1 (“Coccia”)

CERTIFICATE OF SERVICE

I hereby certify that on March 6, 2025, I caused a true and correct copy
of the foregoing materials:

- Petitioner's Reply to Patent Owner Preliminary Response
- Exhibit 1018

to be served via electronic mail on the following attorneys of record for Patent
Owner:

Mark Johnson
mj@johnsondalal.com

Veronika Balbuzanova
vb@johnsondalal.com

Respectfully submitted,

By: /s Perry S. Clegg/

Perry S. Clegg, Reg. No. 65,304