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BYPASS CIRCUIT

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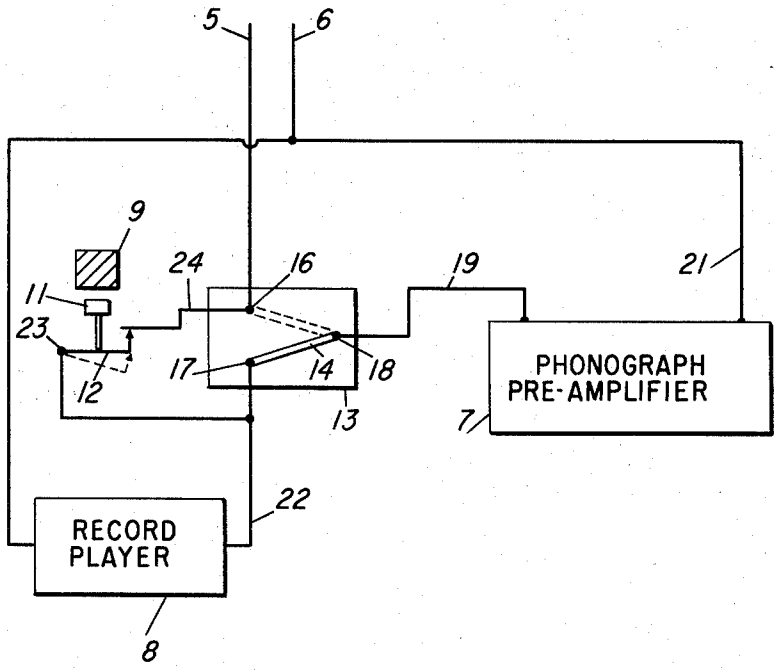

INVENTOR.

June Wesley Rush

BY

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BYPASS CIRCUIT

June Wesley Rush, San Mateo County, Calif.

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5 Claims. (Cl. 179—100.11)

This invention relates to improvements in circuit by-passes.

The principal object of this invention is to provide a bypass circuit for record players and pre-amplifiers.

A further object is to provide a circuit which will permit the record player not only to turn off the player after the last record has been played, but will also disconnect the pre-amplifier.

A further object is to produce a device of this character which may be incorporated in any standard record player and amplifier circuit without materially altering the construction of either piece of apparatus.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numbers are employed to designate like parts throughout the same,

The figure is a schematic arrangement showing the circuit for accomplishing these objects.

Ordinarily a record player has an arm which drops after the last record has been deposited on the turntable and the dropping of the arm serves to break the circuit so that the record player will be shut off. However, when the record player is playing through a pre-amplifier, as is done in practically all high fidelity reproduction, the pre-amplifier remains energized, thus shortening the life of the tubes if they burn for an excessively long period without being shut off.

Applicant has therefore devised a bypass arrangement whereby when this arm stops, the entire circuit will be interrupted, not only to the record player but also through the pre-amplifier.

In the accompanying drawing, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numerals **5** and **6** designate the main line, the numeral **7** the pre-amplifier, the numeral **8** the record player, and the numeral **9** the arm which drops at the end of the record. The numeral **11** is the contact button engaged by the dropping arm to effect an opening of the switch **12**.

The arrangement so far described is common to all record players and my invention consists of a switch having a base **13**, a switch arm **14** and contacts **16** and **17**. A contact **18** is connected by a wire **19** to one side of the pre-amplifier, while the other side of the pre-amplifier is connected by a wire **21** to line **6** and to one side of the record player **8**. The opposite side of the record player is connected by a wire **22** to the contact **17** and to one side of the switch **12**, as shown at **23**. The opposite side of the switch is connected by a wire **24** to the contact **16**.

The result of this construction is that when the switch arm **14** is in the dotted line position current will flow from the wire **5** to contact **16**, switch arm **14**, contact **18**, wire **19**, through the pre-amplifier and by wire **21** back to the opposite side of the line **6** and also to the record player **8**, thence by wire **22** through the switch **12** and wire **24** to the contact **16**, wire **5**.

When the switch is in this dotted line position, the dropping of the arm **9** will engage the contact button **11**, depress the switch **12** and break the circuit to the record player. However, the circuit to the pre-amplifier will still be completed, and this is the condition that now exists in the ordinary circuit.

By moving the switch to the full line position, when the arm **9** drops, the contact button **11** will open the switch **12**. There is no return circuit to the wire **5** and consequently the pre-amplifier and the record player will both be disconnected from the line.

It will thus be seen that I have provided a circuit which will accomplish all of the objects above set forth.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A by-pass circuit including a pre-amplifier, a record player, a supply circuit for supplying energizing current to said pre-amplifier and record player, a stop switch operable by said record player for interrupting said supply circuit, a by-pass switch interposed in the supply circuit between the record player and the pre-amplifier, said by-pass switch having a pair of contacts on opposite sides of said stop switch, a pivoted arm, adapted to engage either of said contacts whereby current may by-pass said stop switch when in one position.

2. In an electrical control, a record player having a turntable drive motor, a normally closed stop switch on said record player arranged to be opened when the supply of records for said record player is exhausted, an amplifier, a single-pole double-throw by-pass switch having a first contact connected to said pole and second and third contacts arranged alternately to be contacted by said pole, and an electric circuit comprising a first and a second lead connected to a source of electric current, said first lead being connected into said record player motor and amplifier in parallel, said second lead being connected to said second contact, a third lead from said second contact to one side of said stop switch, a fourth lead from the opposite side of said stop switch to said third contact, a fifth lead from said third contact to said record player motor and a sixth lead from said first contact to said amplifier.

3. In an electrical system, an amplifier, a record player having means utilizing electrical energy, a first switch associated with said record player, a second switch movable between first and second positions, a source of electric current and an electrical circuit energized by said source, said circuit being arranged so that when said second switch is in first position electric current is supplied for a first and a second subcircuit in parallel, said first subcircuit comprising said first switch and said means and said second subcircuit comprising said amplifier, and said circuit being arranged when said second switch is in second position so that both said amplifier and said means are de-energized upon opening of said first switch.

4. The system of claim 3 which further comprises means connected to the turntable of said record player arranged to open said first switch when the supply of records for said record player is exhausted.

5. In an electrical system, an amplifier, a device for playing back at least one record of previously recorded audible intelligence, a first switch associated with said device said first switch having an open and closed position, means to open said first switch when the supply of records for said device is exhausted and to close said first switch when there is a supply of records for said device, a second switch movable between first and second posi-

tions, and an electric circuit, said circuit being arranged when said second switch is in first position to energize said amplifier regardless of the position of said first switch and to energize said device only when said first switch is closed, said circuit being arranged when said second switch is in second position to energize said amplifier and said device only when said first switch is closed.

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