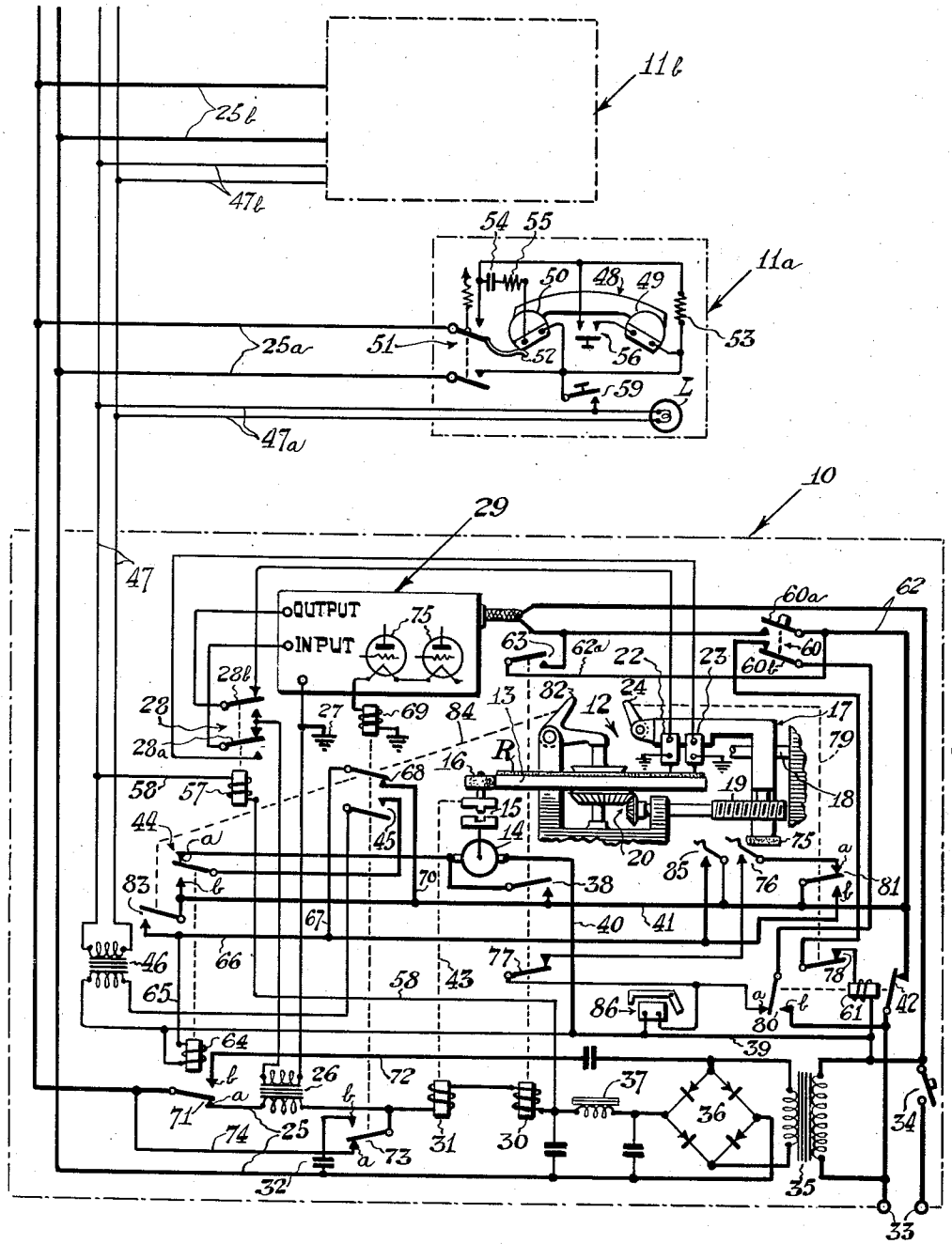
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REMOTELY-CONTROLLED DICTATION-RECORDING SYSTEMS

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REMOTELY-CONTROLLED DICTATION-RECORDING SYSTEMS

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This invention relates to dictation-recording systems which are controlled and operated from one or more dictators' stations remote from the dictating machine, and relates especially to novel features and improvements in and on dictation-recording systems of the type described in my Patent No. 2,650,951, dated September 1, 1953, the Somers et al. application Serial No. 247,244, filed September 19, 1951 (now Patent No. 2,757,238, dated July 31, 1956), and my co-pending application Serial No. 377,095, filed August 28, 1953 (now Patent No. 2,788,395, dated April 9, 1957), all of which have a common assignee with the present application.

The type of dictation-recording system here referred to employs a plurality of dictators' stations for each dictating machine with means to warn the attendant or secretary to change the record whenever a dictator deactivates the system from his station after having recorded into an end zone on the record containing at least a sufficient space for a normal or average dictation period. The term "dictation period," as herein used, refers to the respective time periods dictators hold the system for their own use, and is defined typically by the time elapsing between the instant each dictator picks up his handset or recording microphone and receiver and the instant he returns the handset onto its support. It has been found from wide experience that the integrated recordation time of each dictation period in many classes of dictation machine use is fairly uniform to enable simplification to be made in dictating machine equipment of the remote multistation type. For example, by apprising the attendant to change the record whenever a dictation period ends in the end zone, typically by a sound signal such as a buzzer, each subsequent dictator is assured of having available sufficient uninterrupted record space for at least a normal or average dictation period notwithstanding that only one dictating machine is employed in the recording system. The control adjunct for signaling the attendant as above explained comprises a switch—herein referred to as the intermediate end switch—which is operated by the relative movement between the translating device and cooperating record as the translating device passes a scanning point on the record marking the beginning of the end zone. However, this switch only prepares the warning means or circuit for operation since operation is not effected until another control or switch is actuated responsive to the act of terminating a dictation period.

The present invention resides in an improved recording system of the character abovedescribed, which can be selectively adapted to meet the desired conditions for either day or night service. For daytime service, it is desirable that the machine be maintained constantly in a ready state for immediate use. For nighttime service, when need for the machine may be only occasional, it is desirable that all operating power to the machine be normally turned off but that the machine be readily activatable at the remote dictator's station for use on short notice not longer than the heat-up period of the amplifier. Also, whereas completion of a dictation period in the end

zone during daytime use is to sound a suitable alarm to apprise the attendant to change the record, it is undesirable to sound any such alarm during night use when the machine is unattended; instead, it is preferable that upon terminating use of the machine in the end zone during night use, the operating power to the entire machine be shut off to render the recording system completely dead not only to save power but also to prevent operation of the attendant's alarm. Objects of my invention are to provide novel improvements for remotely-controlled dictation-recording systems of the character described for accomplishing the aforestated desired conditions.

Since the machine will be available for immediate use when set for daytime service, but will be delayed for use by the heat-up period of the amplifier when set for nighttime service, it is a desirable feature to give the dictator ample warning not to attempt to use the recording system until the amplifier is operative. An object of my invention in this respect is to feed a warning signal to the dictator's receiver through the audio circuit between the dictator's station and the attendant's station so as to warn the dictator as soon as he picks up his handset not to attempt to record dictation until the amplifier becomes operative. A further object is to provide novel circuits and apparatus for feeding such warning signal to the dictator while avoiding the feeding of such signal to the translating means of the machine and while preserving control over the machine.

Further objects of my invention reside in restoring the availability of electric power to the machine after a record is changed while the machine is set for night service.

Another object is in cutting off all electric operating power when recordation reaches the end of the record while the system is set for night service, and in rendering electric power available again to the machine upon next changing the record or setting the machine for day service.

These and other objects and features of my invention will be apparent from the following description and the appended claims.

In the description of my invention reference is had to the accompanying schematic drawing showing a remotely-controlled dictation-recording system incorporating my invention.

A remotely-controlled dictation-recording system of the type above referred to comprises an attendant's station **10** and one or more dictators' stations of which two are indicated at **11***a* and **11***b*. However, the apparatus of only one station, **11***a*, is shown since these stations may be identical. At the attendant's station there is a dictating machine **12** fractionally shown as comprising a turntable **13** carrying a disc record R and mounted for rotation about a vertical axis, a motor **14** for driving the turntable through a clutch **15** and friction drive wheel **16**, a carriage **17** mounted as on a support rod **18** for traveling movement across the record, a feed screw **19** actuated through bevel gearing **20** by the turntable and engaged by a feed nut on the carriage for effecting traveling movement of the carriage as the turntable is turned, recording and reproducing type translating devices **22** and **23** on the carriage of which the reproducer is spaced back of the recorder with respect to the direction of travel of the carriage, and a record-reproduce control lever **24** on the carriage operable through regular mechanism (not shown) to raise both translating devices from the record as when a record is to be changed on the turntable and to lower them both or selectively onto the record as desired.

The dictating machine is provided further with an audio circuit **25** which serially includes the primary of an audio transformer **26**. The secondary of this transformer is connected between a ground **27** and a pair of contacts of a double-pole double-throw changeover

switch 28. In the position shown one pole 28*a* of this switch connects the audio transformer 26 to the input of an amplifier 29 and the other pole 28*b* connects the output of the amplifier to the recorder 22, it being understood for simplification of showing that the input and output of the amplifier have a common ground as at 27 and that one terminal of each of the recorder and reproducer units is grounded, as shown. When the changeover switch is in its other position, the reproducer 23 is connected via pole 28*a* to the amplifier input and the output of the amplifier is connected via pole 28*b* to the audio transformer 26.

The audio circuit 25 is utilized also as a control circuit wherefore it includes a relay 30 and an electromagnet 31. Audio currents are by-passed around this relay and electromagnet by a by-pass condenser 32. As will later appear, the mircophones at the dictators' stations may be of the carbon button type requiring energization by direct current. Direct current is supplied to the audio control circuit for the microphones, relay 30 and electromagnet 31 from the A. C. source for the machine represented by terminals 33, through a master switch 34, power transformer 35, full-wave rectifier 36 and a filter 37. As shown in the figure, the primary of the audio transformer 26, the relay 30 and electromagnet 31, and the D. C. current source are connected serially in the audio control circuit, with the condenser 32 by-passing the latter three.

The control relay and electromagnet 30 and 31 have different current sensitivities so that the relay 30 will operate at a selected subnormal current and both the relay and electromagnet will operate at normal current, the current levels being controlled at the dictators' stations as will appear. The relay 30 has three sets of contacts one of which, marked 38, is normally open and is connected in a power line for the motor 14 running from one terminal of the A.-C. Source 33 through the master switch 34, lines 39 and 40 leading to one side of the motor, and the switch 38, line 41 and an auxiliary master switch 42 leading from the other side of the motor to the other terminal of the A.-C. source. Thus the motor 14 runs whenever the relay 30 is operated.

The electromagnet 31 controls the clutch 15 through a coupling 43 diagrammatically represented. The clutch 15 is normally open but is closed as the electromagnet 31 is operated. Thus the turntable 13 will be driven when normal current is established in the audio control circuit.

Connectable in parallel with the motor 14, through switches 44 and 45 hereinafter more fully described, is the primary of a stepdown transformer 46, the secondary of which is connected in a signaling circuit 47. This signaling circuit supplies signaling current to "busy" lamps at the dictators' stations whenever the recording system is being used from one or another dictators' stations, as will appear.

Each dictator's station has a handset 48 which may be of the usual telephone variety comprising, as transducer elements, a carbon button microphone 49 and a receiver 50. These transducer elements are connectable in a branch of the audio control circuit designated by the number of this circuit with the suffix letter of the respective dictator's station. The connecting means comprises a double-pole on-off station switch 51 biased to closed position but normally held open by weight of the handset—as when the handset is not used and is resting on its support—acting through an extension 52 of one pole of the station switch. As the station switch is closed in response to removing the handset from its support, the respective branch audio control circuit is completed through the station switch and a resistor 53 to establish the subnormal current level aforementioned for operating the relay 30; also, the receiver 50 is then connected across the audio control circuit through a blocking condenser 54 and resistor 55. The carbon button microphone 49 is connectable through a manual switch 56 in parallel with the resistor 53 and when so connected the current level in the audio control circuit is raised to normal level to cause also the electromagnet 31 to operate and close the clutch 15. The manual switch 56 serves therefore as a start-stop control for the machine.

The signal circuit 47, like the audio control circuit 25, has a branch leading to each dictator's station marked by the number of the signaling circuit with the suffix letter of the respective station. Each dictator's station has a "busy" lamp L connected in the respective branch signaling circuit for producing a signal whenever a dictator at one or another of the dictators' stations has activated the recording system for his own use.

The record-reproduce changeover switch 28 is part of a relay 57 connected by a line 58 from the positive side of the D.-C. source of the audio control circuit to one side of the signal circuit 47. The circuit of this relay can be completed at each dictator's station by a manual switch 59 connected between the negative side of the audio control circuit and the signal circuit. When the switch 59 is closed, the relay 57 is operated by the D.-C. power source of the audio control circuit to throw the switch 28 from its normal record position to reproduce position.

The phrase "activation of the recording system for use" is herein deemed to mean that the cathodes of the electronic tubes of the amplifier 29 are substantially heated to emission temperature and that the mechanical drive system of the machine is adapted for immediate start-stop operation. In the present illustrative example, this means that the amplifier is substantially heated and the motor is running but that the clutch 15 is disengaged. When the clutch is also engaged, the system will be in operation.

In accordance with the present invention, a service selector switch 60 is provided for adapting the system for day and night use. This is a double-pole double-throw switch for establishing either one of two conditions: (1) to cause the amplifier to be rendered operative whenever the master switch 34 is closed, or (2) to cause the amplifier to become operative only when both the master switch 34 and an on-off station switch at one of the dictator's stations are closed. A further element in controlling the amplifier—as well as in determining whether operating power is available to the entire recording system—is the auxiliary master switch 42 controlled by the coil of relay 61. When this auxiliary master switch is closed and the service selector switch 60 is in the position shown—which is its "night" position—the power circuit from the A.-C. source 33 to the amplifier is through the switches 34 and 42, cable 62, branch 62*a* of this cable and a normally-open switch 63 constituting part of the relay 30. Thus, with the selector switch in night position and the auxiliary master switch 42 closed, operating power will be supplied to the amplifier only when the dictator picks up his handset to cause operation of the relay 30. On the other hand if the service selector switch is in "day" position, the pole 60*a* of this switch will short-circuit the switch 63 of the relay 30 to cause operating power to be supplied to the amplifier whenever the master switch 34 is closed. It will therefore appear that in the present description the recording system is deemed as being in a "stand-by"condition—a condition wherein operating power is made available to the system—whenever both the main master switch 34 and the auxiliary master switch 42 are closed. Also, it will be apparent that the system will be activated for immediate use as soon as a dictator picks up his handset while the service selector switch is in day position, but that activation of the system will be delayed after pickup of a handset at one of the dictator's stations, by the heat-up period of the amplifier, when the service selector switch is in night position. If the relay 61 is energized to hold open the auxiliary master switch 42, then operating power will be shut off to the whole system to render

the system dead; however, upon throwing the service selector switch next to day position, the energizing circuit of the relay **61** is opened by the pole **60***b* of the selector switch to cause concomitant closing of the switch **42**. It will thus appear that a shifting of the service switch between day and night positions while the machine is in use has no immediate effect, but that there is a differential effect depending upon whether this switch is in day or night position when the user returns his handset to its support after having recorded into the end zone. For example, upon returning the handset while the recorder is in the end zone and the service selector switch is in day position the amplifier remains operative and the attendant's buzzer sounds, but upon returning the handset while the recorder is in the end zone and the service selector switch is in night position, the power to the entire system is shut off. A comprehensive understanding of how the system is adapted for day and night service will be had from the detailed description which now follows.

It will first be considered that the service selector switch **60** is in night position shown in the figure, and that the master switch **34** is closed. Power will then be supplied from one terminal of source **33** through line **39** to one side of a disabling and warning relay **64** and from the other side of this relay to the other terminal of source **33** through lines **65**, **66** and **67**, normally-closed switch **68** of an amplifier relay **69**, lines **70** and **41**, and the auxiliary master switch **42**. The resultant energization of the disabling relay **64** will cause its switch **71** to close with its "*b*" contact and the aforementioned switch **44** to close likewise with its "*b*" contact. Closing of switch **71**, as stated, will cause hum to be fed to the audio circuit from the rectifier **36** through a line **72**. This hum signal will however not be transmitted to any dictator until he picks up his handset to connect his receiver to the audio line. In the meantime, until a dictator picks up his handset, the amplifier remains dead because neither the selector switch **60** nor the switch **63** of the relay **30** are now closed to complete the power circuit **62** of the amplifier. The operation of switch **44** to its "*b*" contact by the relay **64**, as abovementioned, has no immediate effect at this time because the serial switch **45** is still open as will appear. Upon a dictator next picking up his handset to close his station switch, the relay **30** will be operated to cause the switch **38** to be closed to start the motor **14**, and to cause the switch **63** to be closed to apply electric power to the amplifier. The hum which is now heard on the line will warn the dictator that the amplifier is not yet heated up. In order that the hum so fed to the line may have substantial volume, the by-pass condenser **32** is at first disconnected by a switch **73** of the relay **69** This is a single-pole double-throw switch which, until the relay **69** is operated, makes with its "*a*" contact to complete the connection of the audio line with the relay **30** through a line **74** shunting the audio transformer **26**. This shunt line maintains continuity of the control circuit with the relay **30** notwithstanding that switch **71** has disconnected the audio line from the audio transformer.

When the cathodes of the amplifier have reached substantially their emission temperature, current will flow in the tube circuits as from one or more tubes **75** through the amplifier relay **69** to ground and will cause operation of this relay. Switch contacts **68** of this relay are now opened to deactivate the disabling relay **64** and cause the switch **71** to return to its "*a*" position. Hum tone on the audio line is therefore removed and the audio transformer **26** is again connected in the audio circuit. Concurrently, the operation of the amplifier relay **69** moves the switch **73** to its "*b*" contact to remove the shunt across the audio transformer **26** and to reconnect the by-pass condenser **32** across the audio circuit. Still further, the operation of the amplifier relay **69** closes the switch **45** to complete connection of the signal transformer **46** across the motor **14** through the switch **45** and the switch **44** via the "*a*" contact of the latter; busy lights will therefore now go on. Thus, when the amplifier reaches operative condition, the hum tone is removed, the audio control circuit is restored to operative condition, and all busy lights at the dictators' stations go on. Upon establishment of these conditions, the system is ready for recording. When the dictator wishes to dictate, he closes the start-stop switch **56** to cause dictation spoken into the microphone to be recorded on the record. If the dictator wishes to listen back to a last portion of his dictation intervening the recorder **22** and reproducer **23**, he will close the reproduce switch **59** to operate the changeover switch **28** to reproduce position and will then further close the start-stop switch **56**.

If a dictator terminates his use of the machine by hanging up his handset before an "intermediate end" switch **76**, which is described in the next paragraph, is reached by the carriage **17**, the machine will be restored to its initial condition—i. e., the relay **30** will be deactivated to stop the motor **14** and to shut off power to the amplifier, and as the amplifier cools off the relay **69** will be deactivated to shut off the busy lights, to open-circuit the by-pass condenser **32** and to restore the shunt line **74** across the audio transformer, and the relay **64** will be reactivated to connect the audio circuit to the hum line **72**. However, power will still be available for reactivating the machine because the auxiliary master switch is still closed. The machine therefore returns to a "stand-by" condition.

If recordation proceeds across the record past an intermediate end point marking the beginning of an end zone of recordable space for approximately one average dictation period, as a typical example, an arm **75** of the carriage **17** will close the intermediate end switch **76** but without having any immediate effect because this switch is in series with switch **77** of relay **30**, which is now open. However, upon the dictator next hanging up his handset to return his station switch to "off" position while the service selector switch is in night position, the auxiliary master switch relay **61** will be operated through a switch **78** connected by a tie line **79** to the record-reproduce lever **24** and now held closed because this lever is in record position, the switch element **60***b* of the service selector switch **60**, a switch **80** of the auxiliary master relay **61** now making with its "*a*" contact, switch **77**, intermediate end switch **76**, switch **81** also connected to the tie line **79** and now making with its "*a*" contact, and auxiliary master switch **42**. The instant the auxiliary master switch relay is so operated, the switch **80** is moved to its "*b*" contact to complete a holding circuit for the relay through the element **60***b* of the selector switch **60** and the switch **78**. Operation of the relay **61** opens the auxiliary master switch **42** to remove all operating power from the recording system wherefore to render the machine dead.

Either of two things may next be done to open the holding circuit of the auxiliary master relay to restore the system to a stand-by condition: (1) shift the service selector switch to day position, or (2) shift the record-reproduce lever **24** to lift the translating devices preparatory to changing a record, which has also the result of opening the switch **78**. When the holding circuit is so opened, the auxiliary master switch **42** is again closed, and the switch **80** is returned to its "*a*" contact to return the holding circuit to a disabled condition.

If while the service selector switch is in night position the auxiliary master switch **42** is returned to closed position responsive to changing a record, it is desirable to maintain a warning to all dictators against attempting to use the machine until the record is changed and the translating devices are again lowered onto the record. For this purpose, advantage may be taken of any movable member operated in changing a record to cause activation

of the disabling relay 64. For example, a switch 83 controlled by a record clamp 82 through a tie line 84 and/or the switch 81 controlled by the record-reproduce lever 24 may be connected in parallel (via the "b" contact of the latter switch) in the circuit of the disabling relay for this purpose, as shown in the drawing. With activation of the disabling relay 64, the switch 71 is moved to its "b" contact to restore hum on the audio line. Also, as the relay 64 is operated, the switch 44 makes with its "b" contact to retain the busy lights on regardless of whether the dictator returns his station switch to "off" position, but only so long as the amplifier is in operated condition. If the dictator hangs up his handset to return the station switch to "off" position, the relay 30 will immediately drop out because when the relay 64 and the relay 69 are both operated continuity to the relay 30 is broken. As soon as the relay 30 drops out, power is shut off to the amplifier, leaving it to cool off to inoperative condition. Until it does cool off signal current will be supplied to the transformer 46 through switch 45 and the "b" contact of switch 44. But if the amplifier is in inoperative condition—which it will be if a record change is delayed by the cooling off period of the amplifier after the dictator hangs up his handset—the only warning to a dictator who would next want to use the system is the hum siganl transmitted through the receiver from the instant he picks up his handset to the instant when the amplifier becomes again operative.

If the dictator records through the entire end zone to the end of the record, some advance warning may be given as the end of the record is approached by feeding a low-volume signal into the audio line as in the manner described in the aforementioned Somers application, but such warning means need not be herein described. When the end of the record is reached while the selector switch is in night position, an end switch 85 is closed by the carriage 17 to complete the energization circuit of the disabling relay 64. The switch 71 of this relay is then operated to its "b" contact to restore a warning tone to the audio circuit and to break temporarily the continuity of the audio control circuit to the relay 30, since the amplifier relay 69 is now still operated to maintain open the shunt line 74. As soon as the relay 30 drops out, the energization circuit of the auxiliary master relay 61 is completed through switch 78, element 60b of service selector switch 60, switch 80 via its "a" contact, switch 77, intermediate end switch 76, switch 81 via its "a" contact and auxiliary master switch 42. Upon operation of the relay 61 it is held operated by its holding circuit abovedescribed. The auxiliary master switch 42 therefore stays open to render the recording system dead. As soon as these conditions are realized following activation of the relay 64—which will be almost instantaneous—the hum tone on the audio line is shut off. The dictator will know, however, by the busy lamps being out and by the absence of any side tone on the audio line, that the recording system is dead. Again, as hereinbefore explained, the system can be restored next to a stand-by condition only by either operating lever 24 preparatory to changing the record or by shifting the service selector switch to day position.

When the service selector switch is in day position, the amplifier power circuit is closed through the pole element 60a of the service selector switch. Thus the system is maintained in a stand-by condition for immediate use. Also, when the service selector switch is in day position the auxiliary master relay 61 is maintained in an inoperable state by reason of the pole element 60b of this switch being now disconnected from its associated contact. The auxiliary master switch 42 is therefore maintained closed at all times while the service selector switch is in day position.

Since the amplifier relay 69 is now maintained constantly in operated position, the disabling relay 64 is never activated when a dictator picks up a handset, and as a result hum is not then ever fed to the audio line. Also, the busy lights will now go on as a dictator picks up his handset. If a dictator hangs up his handset before recording into the end zone, the relay 30 drops out to stop the motor 14 and to put out the busy lights by the opening of the switch 38. This restores the machine to its starting stand-by condition. If the dictator hangs up after recording into the end zone, the intermediate end switch 76 will have been closed, and on the subsequent closing of the switch 77 as the relay 30 drops out, energizing current is supplied to an alarm device 86, typically a buzzer, at the attendant's station, through line 39, the device 86, switch 77, intermediate end switch 76, switch 81 via its "a" contact and auxiliary master switch 42. This alarm apprises the attendant to change the record. As the attendant operates the lever 24 to raise the translating devices from the record the switch 81 is operated to its "b" contact to shut off the alarm and to activate the disabling relay 64. Operation of relay 64 puts hum on the audio line to warn the dictator against attempting to use the machine until the translating devices are restored onto the record. Also the record-clamp switch 83 controls the relay 64 to maintain hum on the line until the new record is clamped onto the turntable. Since both the amplifier relay 69 and the disabling relay 64 are now operated, the busy lights will be kept energized (through switch 45 and "b" contact of switch 44) until the machine is restored to operable condition by the record being clamped, the carriage being returned to its starting position, and the translating devices being again lowered onto the record. The carriage return causes the intermediate end switch 76 to be opened to prevent the alarm device 86 from being again activated when the switch 81 is returned to its "a" position.

If while the selector switch 60 is in day position the dictator records to the end of the record, causing the end switch 85 to be closed, the disabling relay 64 will be energized through the line 39, line 66, end switch 85, line 41 and auxiliary master switch 42. Operation of the relay 64 will cause switch 71 to break continuity of the audio control circuit to the relay 30 (it being noted that the amplifier relay 69 is now still operated to hold the switch 73 in its "b" position) and will cause hum to be fed to the line to warn the dictator against now attempting to use the system. The relay 30 therefore automatically drops out to stop the motor, but the busy lights are kept energized through the switch 45 and the "b" contact of switch 44. Also, as the relay 30 drops out, the alarm 86 is energized through the switch 77, intermediate end switch 76, "a" contact of switch 81 and the auxiliary master switch 42, even though the dictator may not yet have hung up his handset.

As the attendant proceeds next to change the record, the relay 64 will be kept energized through either the switch 83 controlled by the record clamp and/or the switch 81 controlled by the record-reproduce lever 24 to maintain hum on the audio line, to keep the busy lights on and to disconnect the dictator's controls from the relay 30 until the record is changed and the machine is restored to operative condition. These operations occur whether or not a dictator continues to hold his handset from its support during record change, but when record change is completed and a dictator holds his handset off of its support, the disabling relay will drop out to reconnect the audio control circuit with the relay 30 through the audio transformer 26 and to disconnect the hum source from the audio circuit, and the busy lights will be maintained on through the switch 45 and the "a" contact of switch 44 and the switch 38.

As supplementary description of the operation of the recording system when the service selector switch is in night position shown in the drawing, it should be noted that any condition of operation of the system which

would complete the circuit of the alarm device **86** will likewise complete the circuit of the auxiliary master relay **61**. The master relay however predominates to cut off operative power to the whole system, with the result that the alarm device never sounds when the selector switch is in night position.

The embodiment of my invention herein particularly shown and described is intended to be illustrative and not limitative of my invention since the same is subject to changes and modifications without departure from the scope of my invention, which I endeavor to express according to the following claims.

I claim:

1. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support and record-cooperable translating means: the combination of a remote dictator's station comprising a transducer means and an on-off station switch; an audio system comprising said transducer and translating means, an interstation circuit, means to connect said transducer means to said interstation circuit when said station switch is in "on" position, and an amplifier characterized as requiring a heat-up period after application of electric power thereto to render the amplifier operative; a warning tone source at said attendant's station connected to said interstation circuit for producing a warning signal via said transducer means when said station switch is moved to "on" position; means for causing application of electric power to said amplifier when said station switch is moved to "on" position; and means responsive to said amplifier reaching operating condition for disconnecting said warning source from said interstation circuit.

2. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support and record-cooperable translating means, and means conditionable for rendering power available to said machine to place the machine in stand-by condition: the combination of a remote dictator's station comprising a transducer means and an on-off station switch; an audio system comprising said transducer and translating means, an interstation circuit connected to said translating means, means to connect said transducer means to said interstation circuit when said station switch is in "on" position, and an amplifier at said attendant's station characterized as requiring a heat-up period after application of electric power thereto to render the amplifier operative; a warning tone source at said attendant's station; means rendered operative upon placement of said machine in stand-by condition for disabling said audio system and for concomitantly feeding thereto a warning tone from said warning source; means controlled by said station switch for applying electric power to said amplifier when the station switch is in "on" position; and means responsive to said amplifier reaching operative condition for restoring said audio system to operative condition and for concomitantly terminating said feed of said warning tone.

3. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support, record-cooperable translating means, and means for rendering power available to place the machine in stand-by condition: the combination of a dictator's station including transducer means and an on-off station, switch; an interstation audio control circuit; means to connect said transducer means to said audio control circuit when said station switch is in "on" position; a D.-C. power source for said audio control circuit effective when said machine is in stand-by condition; an audio amplifier connectable between said audio control circuit and said translating means characterized as requiring a heat-up period after application of electric power thereto to render the amplifier operative; an electric warning source; switch means in said audio

control circuit movable to a first position for connecting said circuit to said translating means through said amplifier and to a second position for connecting the circuit to said warning source; electromagnetic means energized by power to said machine when the machine is in stand-by condition for holding said switch means in said second position; a control device in said audio control circuit operable by said D.-C. power when said station switch is moved to "on" position for supplying electric power to said amplifier; and means operated by said amplifier as the same reaches operative condition for causing return of said switch means to said first position.

4. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support and record-cooperable translating means: the combination of a dictator's station including transducer means and an on-off station switch; an interstation audio control circuit; means to connect said transducer means to said audio control circuit when said station switch is in "on" position; a D.-C. power source; electrically-energizable control means for said machine controlled at said dictator's station via said audio control circuit; means for connecting said translating means, control means and D. C. power source in series in said audio control circuit; a condenser-type shunt circuit across said control means and D.-C. power source; an electric warning source; and switch means in said audio control circuit operable into one condition to connect said warning source to said audio circuit, to short out said translating means and to open-circuit said shunt, and into a second condition to disconnect said warning source from said audio circuit and to restore connection of said translating means and said shunt in said audio circuit.

5. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support onto and from which a record may be mounted and removed, a record-cooperable translating means, drive means for relatively moving said support and translating means to scan a record by said translating means and an audio system including said translating means: the combination of a remote dictator's station and interstation wiring for connecting said dictator's station to said machine; apparatus including transducer means and an on-off station switch at said dictator's station for operating said dictating machine to record dictation when said station switch is in "on" position; an audio amplifier connectable between said transducer means and said translating means and characterized as requiring a heat-up period after application of electric power thereto to render the amplifier operative; means for applying electric power to said amplifier upon movement of said station switch to "on" position; and means, rendered operative by said station switch upon movement thereof to "on" position and controlled by said amplifier according to the state of warm-up thereof, for feeding a warning signal to the dictators through said interstation wiring and transducer means during the interval between the instant said station switch is placed into "on" position and the instant said amplifier becomes operative.

6. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support onto and from which a record may be mounted and removed, a record-cooperable translating means, drive means for relatively moving said support and translating means to scan a record by said translating means and an audio system including said translating means: the combination of a remote dictator's station and interstation wiring for connecting said dictator's station to said machine; apparatus including transducer means and an on-off station switch at said dictator's station for operating said dictating machine to record dictation when said station switch is in "on" position; an audio amplifier connectable between said transducer

means and said translating means and characterized as requiring a heat-up period after application of electric power thereto to render the amplifier operative; means for applying electric power to said amplifier comprising a service selector switch movable into first and second positions and effective when in said first position to cause continuous application of electric power to said amplifier to maintain the amplifier operative for immediate use; and means comprising said station switch and said selector switch and effective when said selector switch is in the second of its positions for causing application of electric power to said amplifier only when said station switch is in "on" position.

7. The combination set forth in claim 6 including a warning means at said attendant's station to apprise the attendant when the record is to be changed on said support; an intermediate end switch operated by said machine in response to relative advance movement between said record support and translating means past a scanning point marking a predetermined end zone of recordable space on the record; and means differentially conditioned according to the positioning of said service selector switch and controlled by said station and intermediate end switches for causing activitation of said warning means upon return of said station switch to "off" position while said selector switch is in said one position and the translating means is in said end zone and for causing cut-off of electric operating power to said recording system upon return of said station switch to "off" position while said selector switch is in said second position and said translating means is in said end zone.

8. The combination set forth in claim 7 including a movably-mounted member on said machine required to be operated into one position as an incident precedent to removing a mounted record from said support and to be returned after mounting of a record to restore the machine to operable condition; and means controlled by said member according to the positioning of said selector switch for shutting off said warning means when said selector switch is in said first position and for rendering operating power available again to said recording system when said selector switch is in said second position.

9. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support onto and from which a record may be mounted and removed, a record-cooperable translating means and electric drive means for effecting a relative advance movement between said support and translating means to scan a supported record by said translating means: the combination of a remote dictator's station and interstation wiring for connecting said dictator's station to said dictating machine; an on-off station switch at said dictator's station for connecting said dictating machine to said station only when said station switch is in "on" position; means for supplying electric operating power to said recording system; a relay having operable contacts in said power-supplying means for cutting off all electric operating power to said recording system when the relay is energized; means operated by said machine in response to said translating means reaching a scanning point at the end of the record for supplying energizing current to said relay to shut off all electric operating power to said recording system; and a holding circuit closed by operation of said relay for retaining the relay in operated position after operating power to said recording system is shut off.

10. The combination set forth in claim 9 including a movable member required to be operated in changing a record on said support; and means controlled by said member as a record change is made for opening said holding circuit to return said relay to unoperated condition.

11. In a remotely-controlled dictation-recording system comprising an attendant's station including a dictating machine having a record support onto and from which a record may be mounted and removed, a record-cooperable translating means and electric drive means for effecting a relative advance movement between said support and translating means to scan a supported record by said translating means: the combination of a remote dictator's station and interstation wiring for connecting said dictator's station to said dictating machine; an on-off station switch at said dictator's station for connecting said dictating machine to said station only when said station switch is in "on" position; an intermediate end switch operated by said machine in response to relative advance movement between said record support and translating means past a scanning point marking a predetermined end zone of recordable space on the record; means for supplying electric operating power to said system including a power switch openable to render the system dead; a service selector switch movable into first and second positions to adapt said system for daytime and nighttime use; and means controlled by said station switch, intermediate end switch and service selector switch for opening said power switch upon return of said station switch to "off" position while said translating means is in said end zone and said system is adapted for nighttime use.

12. In a dictation-recording system comprising a dictating machine having a movable support onto and from which a record may be mounted and removed, record scanning means, drive means for said scanning means and an audio amplifier: the combination of a dictator's transducer for said machine, a dictator's on-off switch for said recording system, an intermediate end switch operated by said machine upon advance of said scanning means into a predetermined end zone of recordation on said record, means for supplying electric power to said drive means and amplifier including a service selector switch shiftable between two positions without influence on said power supplying means while said dictator's switch is in "on" position, and means controlled by said service, intermediate and dictator's switches for establishing different terminal conditions of said power supplying means according to the positioning of said service selector switch upon return of said dictator's switch to "off" position while said intermediate switch is operated (1) to maintain said amplifier operative when said service switch is in one position, and (2) to render power unavailable to both said amplifier and said drive means when said service switch is in a second position.

13. The combination set forth in claim 12 including control means operable incidental to changing a record on said support, and means operable selectively either by said control means upon changing a record on said support or by said service switch upon shifting same to said first position for restoring power availability to said amplifier and drive means.

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