

just before the RECORDER shuts off. Only one track is erased at one time. To erase the second track, reverse the reels and repeat the above operation.

TO PLAY TAPE

1. Depress PLAY-BACK button and adjust VOLUME and TONE for most pleasing reproduction.

HIGH SPEED WIND

High speed forward or reverse wind can be obtained by pressing the desired button.

TO RECORD FROM TELEPHONE

Telephone recordings can be made by connecting to the microphone jack. If conversations are to be recorded, it is necessary that you contact your local telephone company, who will furnish the correct junction box, warning signal device, and make all proper connections. After the connections have been made, proceed as in TO RECORD TAPE.

TO USE EXTENSION SPEAKER

Any size speaker, of the permanent magnet type having 3 ohm voice coil, is recommended for use with your KNIGHT RECORDER.

1. Insert extension speaker plug into extension speaker jack located on the right hand side of the cabinet. This automatically cuts out the self-contained speaker.

TO SPLICE TAPE

Splicing recording tape is easily accomplished by trimming the ends square, placing them together and patching on the uncoated (glossy) side with a small piece of Scotch tape. Splicing is very useful when editing or building up programs from recorded tape.

MAINTENANCE

All rotating parts are provided with generous size oilite bearings which are factory lubricated and should require no further attention.

An occasional cleaning out of foreign matter under the plastic push-button cover is desirable and a small drop of oil on the sliding lever members is advisable. The rubber capstan on the drive shaft and the surface of the recording head across which the tape passes should also be cleaned occasionally with alcohol or lighter fluid on a soft piece of cloth.

KNIGHT

DUAL SPEED TAPE RECORDER

ALLIED RADIO CORP.

MODEL 96-590

Operating Instructions

BY

ALLIED RADIO CORPORATION

CHICAGO, ILLINOIS

82-2502

DESCRIPTION

The Knight Model features fingertip tape-recording with remarkable fidelity and brilliant reproduction. It uses double-track recording, giving twice the recording time on a single reel of tape as those using the single-track principle. 5" or 7" reels can be used and merely pressing a button gives you a high-speed wind either forward or reverse. A neon recording indicator simplifies the recording level setting and tape can be re-used, since the erase head is automatically positioned when the RECORD button is pressed. Recordings can be made from an external radio, external phonograph unit or of telephone conversations in addition to those made directly from the microphone. Recordings can be played back through the self-contained speaker or an external speaker through an output jack which is provided.

Operating your new Knight Recorder is extremely easy. The better you understand the function and use of the simple controls, the greater your enjoyment will be. Please read these instructions carefully so that you will obtain the greatest pleasure and satisfaction from your Recorder.

OPERATION

The Unit is designed to operate on 60 cycle, 115 volt, AC supply. Before connecting to your line supply, be absolutely certain that it agrees with the above specifications. SEVERE DAMAGE will result if connection is made to a direct current (DC) line.

USE OF FUNCTION BUTTONS

Five simple push-buttons, located in the center of the top panel, control the functions of your Knight Recorder. These functions are: (1) REVERSE, (2) RECORD, (3) STOP, (4) PLAY, (5) FORWARD.

When the FORWARD or REVERSE buttons are depressed, the RECORD and PLAY buttons are locked so that they cannot be pressed down, with the possibility of spilling the tape. The buttons should always be pressed down firmly until they latch and it is recommended that the STOP button be depressed before changing functions or speeds of the RECORDER.

IMPORTANT: ALWAYS DEPRESS STOP BUTTON WHEN THE RECORDER IS NOT IN USE.

THREADING THE TAPE

1. Unwind about 14 inches of tape from the reel and place reel on left hand (supply) turntable so that it unwinds counter-clockwise.
2. Holding a section of the tape straight with both hands, insert tape in tape slot.
3. Insert the free end of the tape through the hub of the right-hand (take-up) reel and place a pencil firmly over the tape, forcing it into one of the three slots on the hub of the empty reel. Turn reel two or three tight turns with the pencil in this position until the tape catches.

TO RECORD FROM MICROPHONE

1. Turn the ON-OFF VOLUME control to the right until a click is heard and allow about 30 seconds for the unit to warm up. The PILOT LIGHT located above the STOP BUTTON will glow when the unit is turned on.
2. Move RECORD LOCK LEVER downward with the left hand. This releases the Record safety lock which prevents accidental erasure (see Fig. 1).
3. Depress the RECORD button with the right hand (while holding Record Lock Lever with left hand) until it latches.
4. Adjust the VOLUME control until the NORMAL record level indicator just flashes, while speaking into the microphone. When the volume control is advanced too far, the OVERLOAD indicator will flash and the recording will be distorted. To prevent overload, lower the volume control to a point where the OVERLOAD indicator will not flash.
5. The TONE control does not operate during recording. When recording from radio (see below), set the radio tone control for maximum treble.

TO RECORD FROM EXTERNAL RADIO

A rubber covered radio-phono recording cord complete with plug, resistance network and clips, is available from your KNIGHT dealer.

1. Insert cord plug into MICROPHONE jack.
2. Connect cord clips across voice coil terminals on radio speaker.
3. Proceed as in RECORD FROM MICROPHONE.

TO RECORD FROM PHONOGRAPH

1. Insert cord plug (see TO RECORD FROM EXTERNAL RADIO) into MICROPHONE jack.
2. Connect alligator clips to playback crystal terminals on external phonograph.

NOTE: The black wire on the cord is internally grounded, therefore this should always be connected to the ground side of the equipment being recorded.

TO USE SECOND TRACK

1. Depress STOP button when the tape has been wound on the take-up reel.
2. Remove reel containing tape and place empty reel in right-hand turntable.
3. Thread tape as previously described.

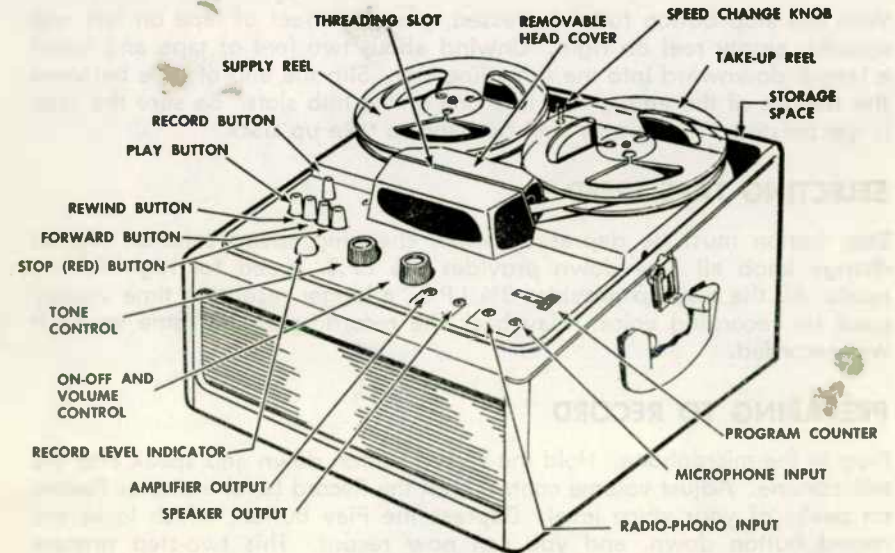
TO ERASE THE TAPE

When the RECORD button is depressed, the erase head is automatically positioned, erasing any previous recording while a new one is being made. You may erase material no longer needed, without recording, by depressing the RECORD button and turning the VOLUME control knob to the minimum volume position or extreme counter-clockwise position



knight

DUAL SPEED TAPE RECORDER



MODEL No. KN 4050

Operating your Recorder is extremely easy, but for a thorough understanding of the Push-Button Controls please read the instructions Carefully.

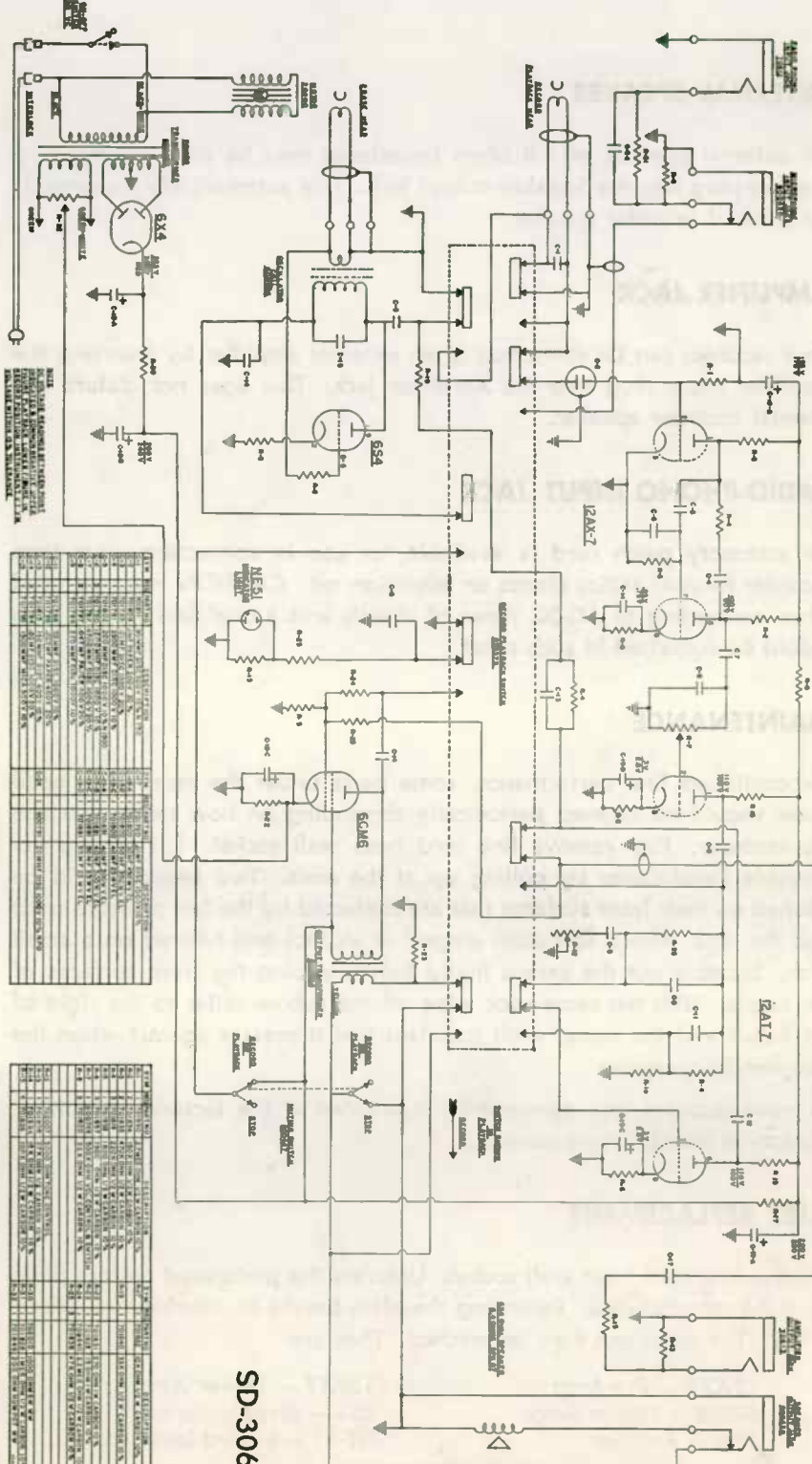
Be sure and keep stop button depressed when not using Recorder.

POWER - 117 V. 60 Cycle
POWER CONSUMPTION - 90 Watts
REEL SIZE - 7" or less
Fast Forward and Rewind
1200' in 80 seconds
RECORD INDICATOR - Neon Lamp
INPUTS - Microphone
Radio Phono
OUTPUTS - Amplifier
External Speaker 4-8 Ohms

OUTPUT - 5 Watts max.
DISTORTION - 2% max. at
normal listening level
RESPONSE - 70-12,000 C.P.S.
at 7½ I.P.S.
WOW AND FLUTTER - less than
0.35 R.M.S. at 7½ I.P.S.
SIGNAL TO NOISE RATIO
40 D.B. minimum

ALLIED RADIO CORPORATION
100 N. WESTERN AVENUE
CHICAGO 80, ILL.

IB-389



SCHEMATIC DIAGRAM - MODEL KN 4050

SD-306

SETTING UP YOUR RECORDER

Remove power cord from the rear storage section and plug into outlet supplying 117 V. 60 cycle A.C. Turn the volume control knob to turn on recorder.

THREADING THE TAPE

With the stop button fully depressed, place full reel of tape on left reel spindle, empty reel on right. Unwind about two feet of tape and insert a length downward into the threading slot. Slip the end of tape between the flanges of the empty reel into one of the hub slots. Be sure the tape is not twisted. Turn empty reel by hand to take up slack.

SELECTING TAPE SPEED

Stop button must be depressed when changing speed selector. Speed change knob all way down provides $7\frac{1}{2}$ I.P.S. speed for high fidelity music. All the way up provides $3\frac{3}{4}$ I.P.S., a longer recording time usually used for recording voice. Play back the recording at the same speed it was recorded.

PREPARING TO RECORD

Plug in the microphone. Hold the record button down and speak into the microphone. Adjust volume control until the Record Level Indicator flashes on peaks of your voice level. Depress the Play button, which locks the record button down, and you can now record. This two-step process prevents accidental erasure.

RECORDING

Speak in natural tones about 4 to 6 inches from the microphone. The Record Level Indicator should flash distinctly with the peak modulations of your voice. If the indicator glows continuously the volume control is set too high. Depress the Stop button fully when recording is completed.

REWINDING TAPE

Depress rewind button fully. When tape is rewound depress Stop button fully.

PLAYING BACK

To play back a recorded tape, depress Play button fully. Adjust the Volume and Tone controls to suit your individual preference. Depress Stop button fully when playback is completed.

PROGRAM COUNTER

The counter is a re-settable type. It enables you to locate a previously logged selection by returning to the same guide number.

EXTERNAL SPEAKER

An external speaker of 4-8 ohms impedance may be used by inserting speaker plug into the Speaker output jack. This automatically disconnects the internal recorder speaker.

AMPLIFIER JACK

Your recorder can be connected to an external amplifier by inserting the amplifier input plug into the Amplifier jack. This does not disturb the internal recorder speaker.

RADIO-PHONO INPUT JACK

An accessory patch cord is available for use in connecting your tape recorder to your radio, phono or television set. CAUTION must be used when connecting to AC-DC types of chassis and a qualified service man should be consulted in such cases.

MAINTENANCE

For continued fine performance, some parts under the removable head cover should be cleaned periodically depending on how much you use the recorder. First remove line cord from wall socket. Lift off the Removable Head Cover by pulling up at the ends. Two heads should be cleaned on their front surfaces that are contacted by the felt pressure pads and the tape. Use a soft cloth dipped in alcohol and twisted on a small stick. Squeeze out the excess liquid before wiping the front surfaces of the heads. With the same stick wipe off the rubber roller to the right of the heads and the round shaft (capstan) that it presses against when the recorder is operating.

As your recorder was permanently lubricated at the factory, no further lubrication should be necessary.

TUBE REPLACEMENT

Remove line cord from wall socket. Unscrew the perforated bottom plate from the recorder case. Removing the plate breaks an interlock for added safety. The tubes can then be reached. They are:

12AX7 — Pre-Amp.
6CM6 — Power Amp.
6X4 — Rectifier

12AT7 — Driver Amp.
6S4 — Bias Oscillator
NE-51 — Record Level Ind.