

VARIABLE RELUCTANCE CARTRIDGES

OTHER GENERAL ELECTRIC HIGH FIDELITY PRODUCTS

"Baton" Tone Arms

Dual Co-axial High Fidelity Speakers

Audio Filters

High Fidelity Equipment Cabinets

High Fidelity Amplifiers

Extended Range Speakers

"Distributed Port" Speaker Enclosures

SPECIFICATIONS

	-		The state of the s
RPX-040A .003 IN.		WIDE GROOVE (78 RPM)	RPJ-03S
SINGLE: RPX.041A .001 IN.			RPJ-01S
NI 100. A19X-061A		MICROGROOVE (33 1/3 & 45 RPM)	RPJ-01D
RPX-063A .003 IN.		WIDE GROOVE (78 RPM)	RPJ-03D
RPX-050A .001 & .003 IN.	03 IN.	WIDE AND MICROGROOVE	RPJ-010A
DUAL: RPX-052A .001 & .003 IN.	03 IN.	WIDE AND MICROGROOVE	RPJ-013A
	03 IN.	WIDE AND MICROGROOVE	RPJ-012A

MILLIVOLTS

#12-5-49 TEST RECORD

RCA

9

VELOCITY (INNER BAND

GENERAL

These cartridges have been designed for use in one-, two-, or three-speed record player equipment and feature a replaceable "slide-in" styli.

All of the stylus assemblies and "slide-in" styli available are catalogued in the chart on the back cover of this booklet. These styli are identified by the color code on their tips (Note Fig. 2), and may be used in either the single or the dual cartridge.

The single cartridges are equipped with a single "slide-in" stylus mounted in a single stylus holder (see Fig. 2). The dual cartridge is identical to this with one exception; two "slide-in" styli

are mounted in a dual stylus holder (Fig. 2).

Two 3-48 x 1/4 inch round head machine screws are supplied with these cartridges for mounting purposes. The dual cartridges are supplied with three selector knobs. The knob used will depend upon the knob clearance necessary with the particular tone arm installation. The knob index is self explanatory with the point of the arrow pointing to the microgroove stylus.

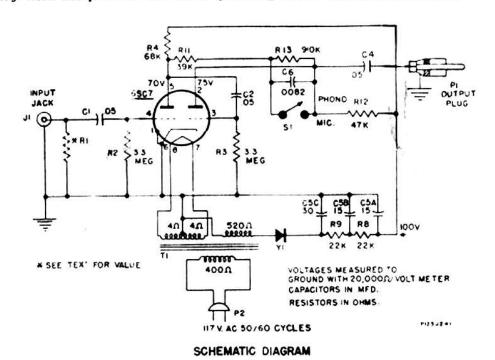


FIG. 1. UPX-003B PREAMPLIFIER CIRCUIT

AMPLIFIER DESIGN

For optimum performance, the amplifier chosen should be capable of full output with 10 millivolts input. Equalization must be employed to compensate for various recording characteristics of different record manufacturers. For applications involving music amplifiers and radio receivers. the G.E. Cat. No. UPX-003B preamplifier is recommended to provide the necessary preamplification of the cartridge's low level output, and equalization for recording characteristics. Low frequency equalization is provided by R11 and C6 and high frequency equalization is provided by R1 (Fig. 1). Low frequency boost is 18db with a cross-over of approximately 700 cps. R1 may be selected in the range of 3900 to 50,000 ohms and added as shown in Fig. 1. The higher values provide less equalization (more high frequencies) while the lower values provide maximum equalization. The recommended value of R1 for general application is 6200 ohms. In the receiver or amplifier to be used with these units, previously employed circuit compensation for phonograph frequency response must be removed.

General Electric model A1-901 RECORD FILTER affords a convenient method of compensating for all recording characteristics as well as reducing or eliminating unwanted low frequency and for high frequency noises. This 3-way record filter offers a "Lo Cut-Off" filter (attenuation-12db/octave at 40, 60, or 80 cps): a compensator control (6 positions including the new RIAA standard) and a "Hi Cut-Off" filter (attenuation-12db/octave at 3, 5, and 9 kc). Each of the three controls has a "FLAT" position. When using this filter with the UPX003B, R1 should be at least 62,000 ohms.

TONE ARM REQUIREMENTS

The design and construction of the tone arm are important factors in proper functioning of the variable reluctance cartridge. In order to obtain good tracking of records, the tone arm must meet the following requirements:

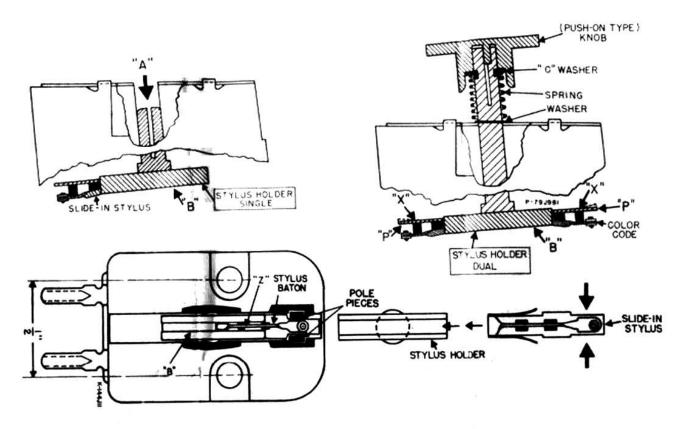
1. Provision for obtaining correct tracking pressure of 6-8 grams.

Precision bearings for a minimum (less than 1 gram) of friction of movement in the lateral and vertical planes.

Freedom from torsional resonances at all audible frequencies. Fundamental resonance of the tone arm and cartridge combination should be below 20 cps to assure good low frequency tracking and smooth response.
"BATON" TONE ARMS—The General Electric Models A1-500 (for records up to 12 inches in

diameter) and A1-501 (for records up to 16 inches in diameter) tone arms are recommended for

use with G-E variable reluctance cartridges.



CARTRIDGE AND STYLUS DETAIL

MOUNTING

The outline drawing of Fig. 2 shows the pick-up cartridge viewed from the bottom with dimensions for the screw mounting centers. The cartridge should be mounted with its top surface parallel to the top of the tone arm in order that the stylus will contact the record at the proper angle.

For mounting the dual cartridge, a 16-inch hole must be drilled through the top of the tone arm for the stylus assembly shaft to pass through. This hole must be accurately placed. This is accomplished by removing the dual stylus assembly as described in "Stylus Assembly Removal," and mounting the cartridge in the tone arm. A marking tool that will fit through the cartridge center

hole (Fig. 2 "A") will scribe a mark on the tone arm in the proper place.

After removing the cartridge the hole may be drilled. The stylus assembly is then re-installed in the cartridge and the cartridge is mounted in the tone arm. The stylus pressure should now be

adjusted to between 6 and 8 grams, as shown in the cartridge specifications.

CAUTION:—General Electric Variable Reluctance cartridges are a type of magnetic cartridge, and are therefore subject to hum pickup from stray magnetic fields. Although hum bucking measures have been taken in their design and construction, it is advisable to keep these cartridges as far from any stray magnetic (A-C) fields as possible.

TO INSTALL OR REMOVE SLIDE-IN STYLI (SINGLE OR DUAL)

Push stylus holder out and twist sufficiently to render Channel "B" accessible from both ends. Grasp the slide-in stylus at the arrows (Fig. 2) by your thumb and forefinger. Insert the slide-in stylus into Channel "B," being sure it is in all the way. Push stylus holder back into the slot in the cartridge by thumb pressure on Channel "B." The end of the channel with the small hole drilled in it should be used for the .001 styli, thus aligning the shaft keyway so the knob will point out the proper stylus (Dual only).

CAUTION: - When inserting the slide in the stylus holder, be certain the flat side is flush

with the bottom of the channel.

The removal of the stylus is accomplished by reversing the installation procedure.

STYLUS HOLDER REMOVAL

SINGLE: Insert a small nail or equivalent tool into the hole marked "A" in Fig. 2 and push the stylus holder out of the cartridge.

DUAL: -Pull off the knob, compress the spring slightly and remove the "C" washer. Pick off the spring and flat washer and slide the stylus holder out of the cartridge.

STYLUS HOLDER INSTALLATION

SINGLE:-Place round, split part of stylus holder in the hole in the bottom of the cartridge. Press firmly on part "B," shown in Fig. 2, to seat holder in the slot provided for it in the cartridge. Make sure the holder is in as far as it will go.

DUAL:-Insert stylus holder shaft into cartridge so that it slides in as far as it will go. Place the flat washer and the spring over the stylus holder shaft. Compress the spring slightly so that the "C" washer may be inserted in the slot provided. The knob may be slid on the shaft after the cartridge has been mounted in the tone arm. When mounting the knob, make sure that the key in the knob matches the slot in the stylus holder shaft. The elongated slot in the dual stylus holder shaft may be adjusted to correct for loose fitting knobs.

SERVICE

The stylus must be centered exactly between the pole pieces for proper operation. Also, the stylus baton must not touch the stylus holder channel. Should the stylus be bent off center, it may be brought into proper alignment by the slight pressure of a thin knife inserted between Channel "B" and the stylus baton at point "Z" (Fig. 2).

To take up any lateral play of the slides at "P-P" (Fig. 2), bend the slides up (away from stylus tip) slightly at "X-X" with tweezers. This will allow the slides at "P-P" to make contact with vee slots in the cartridge body, thus keeping the

slides aligned.

To insure optimum performance from the General Electric Variable Reluctance Cartridge, its stylus, magnetic pole pieces, and gaps, should be cleaned of foreign particles periodically. A soft bristle brush, G.E. Cat. No. RQB-001 or equivalent, should be used.

RKP-009A-Knob Kit-Contains three knobs, a "C" washer, flat washer, and spring. The next to the shortest knob (.340"), is used with the G.E. Baton Pickup Arm, Models A1-500 and A1-501.

INDIVIDUAL REPLACEMENT "SLIDE-IN" STYLI

G.E. CAT. NO.	STYLUS TIP RECOMMENDED USE	COLOR CODE †
RPJ-01S	1 MIL SAPPHIRE *MICROGROOVE	RED
RFJ-025	25 MIL SAPPHIRE *N.A.B. TRANSCRIPTION	S WHITE
RPJ-035	MIL SAPPHIRE *WIDE GROOVE	NONE
RPJ-01D	MIL DIAMOND MICROGROOVE	BLACK
RPJ-02D	2.5 MIL DIAMOND N.A.B. TRANSCRIPTION	S YELLOW
RPJ-03D	3 MIL DIAMOND WIDE GROOVE	VIOLET

* SYNTHETIC SAPPHIRE

TCOLOR CODE ON END OF STYLUS

DUAL STYLI ASSEMBLIES

	FOLUBBED WITH	H "SLIDE-IN" STYLI NOS
G.E. CAT. NO.	EQUIPPED WITH	1 SCIDE-IN STILLINGS
RPJ-007A	***************************************	RPJ-01S AND RPJ-02S
RPJ-010A		RPJ-01S AND RPJ-03S
RPJ-011A	##50000	RPJ-01D AND RPJ-02D
RPJ-012A		RPJ-01D AND RPJ-03D
RPJ-013A		RPJ-01D AND RPJ-03S

WARRANTY

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The General Electric Company warrants to the purchaser of each new General Electric pickup cartridge for his own use that any part thereof which proves to be defective in material or workmanship within ninety (90) days from the date of his purchase will be repaired or replaced in accordance with the terms of this warranty.

If the cartridge should prove to be defective during said ninety-day period, such defect should be brought to the attention of the General Electric Reseller from whom the cartridge was purchased. If upon examination the cartridge is determined to be in fact defective in material or workmanship, the Reseller will either repair the cartridge or furnish the purchaser with a replacement cartridge. The responsibility of General Electric Company is limited to making a repaired or replacement cartridge available to the purchaser and does not include the furnishing of any labor whatsoever, such as that required to diagnose trouble or to remove or install the cartridge. Nor does it include responsibility for any transportation expense, such as may be trouble or to remove or install the cartridge. Nor does it include responsibility for any transportation expense, such as may be required for the return of a defective cartridge.

This warranty is made only to purchasers located and purchasing within the continental limits of the United States and

the Territory of Hawaii and no warranty, express or implied, is made to any other purchasers.

The foregoing is in lieu of all other warranties, express, implied, or statutory, and General Electric Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with said cartridge.

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ELECTRIC GENERAL