

GRADO STEREO PHONO PICKUPS

SPECIFICATIONS—FTR+, FTE+, FCR+, FCE+

Output—5 MV @ 3.54 CMV (45 degrees)
 Frequency Response—10-35,000 Hz
 Channel Separation—Average 20 DB, 10-20,000 Hz
 *Stylus—Diamond

SPECIFICATIONS—FTE+1, FCE+1

Output—3 MV @ 3.54 CMV—(45 degrees)
 Frequency Response—10-50,000 Hz
 Channel Separation—Average 20 DB, 10-30,000 Hz
 *Stylus—Diamond

SPECIFICATIONS—F3E+

Output—3 MV @ 3.45 CMV—(45 degrees)
 Frequency Response—10-55,000 Hz
 Channel Separation—Average 25 DB, 10-30,000 Hz
 *Stylus—Diamond

SPECIFICATIONS—F2+, F1+, G1+

Output—3 MV @ 3.54—(45 degrees)
 Frequency Response—10-60,000 Hz
 Channel Separation—Average 25 DB, 10-30,000 Hz

SPECIFICATIONS—ALL MODELS

Input Load—10,000 Ohms or more
 Inductance—55 millihenries
 DC Resistance—700 Ohms
 Mounting—1/2 inch centers
 Pickup Weight—4.5 grams

*Last letter in model designates stylus type; R=Spherical, E=Elliptical.
 Models F2+, F1+, G1+ utilize a special Grado stylus.

TRACKING FORCE GUIDE

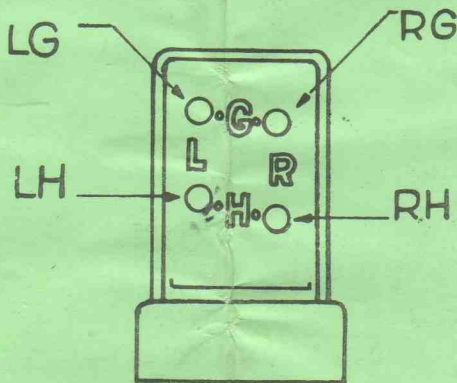
MODEL	STYLUS	TRACKING FORCE
FTR+	FTR+/S	1.5 to 3 grams
FTE+	FTE+/S	
FCR+	FCR+/S	
FCE+	FCE+/S	
FTE+1	FTE+1/S	Stereo=1 Gram CD-4=1.5 Grams Anti-Skate=0
FCE+1	FTE+1/S	
F3E+	F3E+/S	
F2+	F2+/S	
F1+	F1+/S	
G1+	G1+/S	

Adjust Arm Balance (prior to adjusting tracking force) so that the stylus just barely touches the record.

ELECTRICAL CONNECTIONS

STEREO

Fig. 2



Mono for Mono Tone Arm:

Connect both hot pins to hot lead in mono cable.
 Connect both ground pins to ground lead in mono cable.

Mono for Stereo Tone Arm:

Connect both cables from tone arm to a "Y" connector cable which has two female inputs and one male output.

CAUTION: DO NOT SOLDER CONNECTIONS DIRECTLY TO CARTRIDGE PINS. MAKE SOLDER CONNECTIONS TO CONNECTOR BEFORE SLIDING CONNECTORS ON CARTRIDGE PINS.

COLOR CODE FOR REPLACEMENT STYLUS

FTR+/S	Gray Plate	.5 mil Sph.	Gray Plate
FTE+/S	Gray Plate	.7x.3 mil Ell.	Two White Dots
FCR+/S	Gray Plate	.5 mil Sph.	Gray Plate
FCE+/S	Gray Plate	.7x.3 mil Ell.	Two White Dots
FTE+1/S	Gray Plate	.7x.3 mil Ell.	Two Silver Dots
FCE+1/S	Gray Plate	.7x.3 mil Ell.	Two Silver Dots
F3E+/S	Black Plate	.7x.3 mil Ell.	Black Plate
F2+/S	Black Plate	.6x.3 mil Ell.	Two White Dots
F1+/S	Black Plate	Grado Type	Two Blue Dots
G1+/S	Black Plate	Grado Type	Two Yellow Dots
78 RPM	Black Plate	2.7 mil	Two Green Dots

Although the FTR+, FCR+, FTE+ and FCE+ have the same color code, the FC Stylus Series are selected components with closer tolerances!

GUARANTEE

The Grado Model F+ stereo pickups are guaranteed to be free from mechanical or electrical factory defects for a period of one year from the date of purchase or 18 months from the date of factory shipment, providing all the enclosed instructions have been complied with.

The above guarantee does not include stylus wear and does not include stylus damage due to abuse or mishandling.

A new replacement stylus assembly may be purchased from your dealer.

CONSUMER REPLACEABLE STYLUS

Follow instructions carefully to avoid damage!

To remove the stylus assembly use the special tool supplied with your Model F+ pickup.

The tool has hooks with a backing plate behind each hook, extending $\frac{1}{8}$ inch longer than the hooks.

Lay the flat of the backplate extension flush against the rear of the stylus plate. Push down on the tool until it seats with a click as in Fig. 1. With the hooks of the tool engaging the stylus plate as in Fig. 2 pull the tool in the direction of the arrows until the stylus assembly is clear of the pickup.

Fig. 3

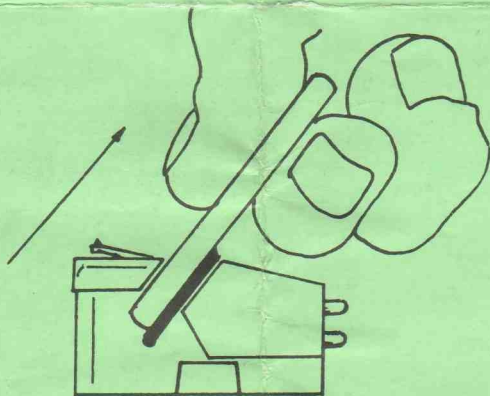
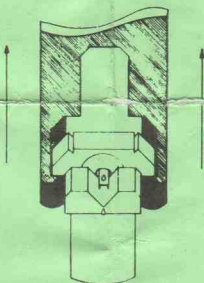


Fig. 1



ADJUSTING CARTRIDGE FOR CD-4 REPRODUCTION

- 1—Set tracking force at exactly $1\frac{1}{2}$ Grams.
- 2—Set anti skate at "0".
- 3—Adjust carrier level control for maximum output.

Some controls operate clockwise and others counter clockwise. To be sure of your adjustment do the following:

READ THE INSTRUCTION FOR YOUR DEMODULATOR AND SET CARRIER LEVEL FOR MAXIMUM. DO NOT USE THE CD-4 ADJUSTMENT DISC!!

If your demodulator does not have a carrier level adjustment, ignore procedure #3.

- 4—Adjust separation control $\frac{1}{2}$ to $\frac{3}{4}$ open.
- 5—Adjust your loudspeaker for equal output using your 4 amplifier volume controls. A mono record is excellent for this adjustment.

Your are now ready for superb CD-4 playback.

The Grado CD-4 super stereo pickups are capable of 4 channel reproduction equal to 15 ips four channel discrete tape.

Unfortunately records, demodulators and pickups are in an evolutionary stage for CD-4 and one must not expect an absolutely perfect reproduction at all times. You may experience an occasional splat, fuzzy sound or down right occasional intermittant distortion. One band of music may be excellent and the next band may be bad. As the records and demodulators become better, so will these occasional annoyances decrease. GRADO is constantly striding to upgrade their product quality regarding CD-4. As improvements are achieved, they will be made available to the public as quickly as possible. These people already owning GRADO CD-4 pickups will be given special consideration regarding price for modification of their units to the latest state of the art. Any further questions may be directed to GRADO LABS.

PIIONEER UNITS—CARRIER LEVEL ADJUSTMENT

While playing the inner band of a CD-4 record, adjust carrier level until CD-4 light goes out. Turn adjust control until CD-4 light goes on again, continue turning in the same direction for two additional click stops. Continue as above starting at number 4.

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