



SYMMETRA-PEAK

MODEL SP 58-1A

SUPERIOR MODEL SP 63-1A

For a bigger voice in AM-FM and TV Broadcasting

- INCREASES EFFECTIVE POWER AND STATION COVERAGE.
- SYMMETRICALLY DISTRIBUTES UNEQUAL POSITIVE AND NEGATIVE PEAK ENERGY OF AUDIO WAVES.
- SPECIFICALLY DESIGNED FOR AM AND FM BROADCAST TRANSMITTERS AND TV AUDIO CHANNELS.
- NO POWER SOURCE OR MAINTENANCE REQUIRED.

GENERAL DESCRIPTION OF SYMMETRA-PEAK

Symmetra-peak is a simple and thoroughly proven solution to the basic problem of maintaining optimum transmitter performance with non-symmetrical audio waves—particularly those of the human voice. Because of certain inherent characteristics, voice waves normally contain non-symmetrical positive or negative peaks. Actual measurements indicate that unequal peak ratios of 6 to 8 db can easily occur, although relatively little peak energy is present. Measurements also show that most voices contain asymmetrical peaks while those produced by music are usually symmetrical. **In each instance, however, it is the peak value that determines the proper modulation adjustment of the transmitter.**

Peak asymmetry is not corrected by the use of limiters or AGC amplifiers. Furthermore, microphone phasing and line polarity switching offer no practical solution because peaks are still unequal and transmitters are prevented from achieving 100 per cent modulation on both positive and negative peaks. Thus, the optimum

modulation capability of the transmitter is restricted, causing a noticeable drop in level when live or recorded voice programs and commercial announcements are compared with music.

Symmetra-peak avoids this problem simply by re-distributing unequal positive and negative peaks symmetrically about the zero axis. Therefore, proper modulation adjustments are no longer determined by low energy asymmetrical peak excursions but by the higher average peak energy contained in symmetrical speech and music. Since Symmetra-peak has no effect on symmetrical program sources, **voice modulation improvements of up to 4 db or 2-1/2 times normal effective transmitter power can be realized.**

In addition, overall audio system performance is improved because with non-symmetrical peak excursions removed, unnecessary limiter and AGC action is avoided. Thus, for best results the unit is normally installed at the output of the studio mixer or master control, ahead of the first AGC amplifier or program limiter.

SPECIFICATIONS

	Model SP-58-1A	Model SP-63-1A
Input Impedance	600 ohms, balanced or unbalanced.	600 ohms, balanced or unbalanced.
Output Impedance	600 ohms, balanced or unbalanced.	600 ohms, balanced or unbalanced.
Typical Harmonic Distortion Measurements	Less than .5% at 40 Hz; less than .2% from 100 to 15,000 Hz at +10 dbm.	Less than .25 at 15 Hz; less than .1% from 40 to 20,000 Hz, at +10 dbm.
Nominal Operating Level	+10 dbm maximum; 0 dbm minimum.	+10 dbm maximum; 0 dbm minimum.
Insertion Loss	Approximately 4 db.	Approximately 2 db.
Frequency Response	± 1 db from 40 to 15,000 Hz.	± 1/2 db from 15 to 20,000 Hz.
Mounting	3-1/2" x 19" relay rack panel.	3-1/2" x 19" relay rack panel.
Power Consumption	None.	None.
Price	\$345 FOB Freeport, N.Y.	\$485 FOB Freeport, N.Y.

KAHN COMMUNICATIONS, INC. reserves the right to make changes in specifications which result in product improvement.



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74 NORTH MAIN STREET • FREEPORT, NEW YORK 11520 • [516] 379-8800

