



UTC HERMETIC SEALED POWER TRANSFORMERS

To MIL-T-27A Specs., MIL Type TF1RX03—Case Number.
Primary 115 volts, 50/60 cycles . . . suited to 400 cycle service

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

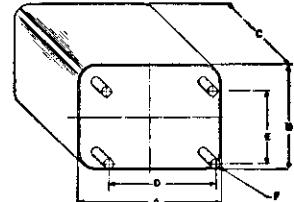
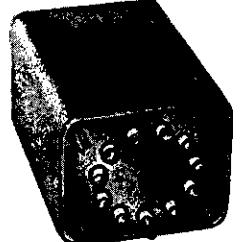
"L" ratings are for choke input filter, "C" for condenser input.

| Type No. | HV Sec. C.T. | Approx* DC volts | DC MA | Filt. Wdg. | Approx* DC volts | MA DC | Filt. Wdg. | Case A B C | Wgt. Lbs. |
|----------|--------------|------------------|-------|------------|------------------|-------|--------------------|-------------------|-----------|
| H-80 | 450 | C 235 | 20 | 6.3VCT-2A | C 210 | 30 | 6.3VCT-2.5A | FA | 1 1/2 |
| H-81 | 500 | L 180 | 65 | | L 170 | 75 | | 2 1/4 2 1/4 3 1/4 | |
| | 550 | C 265 | 55 | 6.3VCT-3A | C 240 | 65 | 6.3VCT-3A | HA | 4 |
| | | L 200 | 60 | 5V-2A | L 190 | 70 | | 3 1/4 2 1/4 4 1/4 | |
| H-82 | 540 | L 180 | 110 | | L 140 | 100 | | | |
| | 600 | C 280 | 65 | 6.3VCT-4A | C 270 | 80 | 6.3VCT-4A | JB | 5 |
| | | L 200 | 100 | 5V-2A | L 170 | 170 | | 3 1/4 3 1/4 3 1/4 | |
| H-83 | 600 | C 325 | 60 | | C 315 | 75 | | | |
| | 670 | L 180 | 140 | | L 160 | 190 | | | |
| | | C 320 | 85 | 6.3V-5A | C 270 | 115 | 6.3V-6A | JA | 6 |
| H-84 | 700 | L 210 | 130 | 5V-2A | L 190 | 180 | | | |
| | 750 | C 370 | 80 | | C 340 | 105 | | 3 1/4 3 1/4 4 1/4 | |
| | | C 275 | 160 | 6.3V-1A | C 260 | 200 | | | |
| H-85 | 700 | C 420 | 105 | 5V-3A | C 380 | 140 | | | |
| | 750 | L 250 | 220 | | L 235 | 260 | 6.3V-6A | LA | 10 |
| | | C 400 | 150 | 6.3V-1.5A | C 355 | 195 | 6.3V-1.5A | | |
| H-86 | 750 | C 270 | 210 | 5V-3A | C 255 | 250 | 6.3V-7.5A | | |
| | 790 | C 450 | 140 | | C 375 | 185 | 5V-4A | 4 1/4 3 1/4 5 1/4 | |
| | | L 240 | 250 | | L 220 | 310 | | | |
| H-87 | 720 | C 425 | 170 | 6.3V-6A | C 410 | 210 | 6.3V-7.5A | MB | 12 |
| | 790 | C 270 | 250 | 6.3V-2A | L 250 | 300 | 6.3V-2A | 4 1/4 4 1/4 5 1/4 | |
| | | C 450 | 160 | 5V-3A | C 440 | 200 | 5V-4A | 4 1/4 4 1/4 5 1/4 | |
| H-88 | 730 | C 390 | 210 | 6.3V-6A | L 210 | 420 | | | |
| | 800 | C 275 | 300 | 6.3V-2A | C 350 | 310 | 6.3V-6A | NB | 16 |
| | | C 440 | 200 | 5V-4A | L 245 | 400 | 6.3V-2A | 5 1/4 4 1/4 5 1/4 | |
| H-89 | 800 | L 280 | 300 | 6.3V-6A | L 260 | 375 | 6.3V-7.5A | | |
| | 1000 | L 370 | 250 | 6.3V-2A | C 380 | 325 | 6.3V-2A | NA | 18 |
| | | C 550 | 180 | 5V-4A | C 510 | 225 | 5V-4A | 5 1/4 4 1/4 6 1/4 | |
| H-90 | 850 | C 320 | 320 | 6.3V-8A | L 300 | 400 | | | |
| | 1050 | C 510 | 280 | 6.3V-4A | C 460 | 270 | 6.3V-8A | OA | 21 1/2 |
| | | C 400 | 300 | 5V-6A | L 380 | 375 | 6.3V-4A | 5 1/2 4 1/2 6 1/4 | |
| H-91 | 900 | L 230 | 140 | 6.3V-5A | L 210 | 190 | 6.3V-6A | JA | 6 |
| | 1000 | L 290 | 130 | 5V-2A | L 260 | 180 | 6.3V-3A | 3 1/4 3 1/4 4 1/4 | |
| | | L 320 | 150 | 6.3V-1A | L 280 | 270 | 6.3V-6A | KA | 8 1/2 |
| H-92 | 900 | L 360 | 180 | 5V-3A | L 320 | 250 | 6.3V-1.5A | | |
| | 1050 | L 330 | 230 | 6.3V-6A | L 370 | 270 | 5V-4A | 4 1/4 4 1/4 5 1/4 | |
| | | L 385 | 220 | 6.3V-2A | - | - | 6.3V-2A | MB | 12 |
| H-93 | 1000 | L 370 | 280 | 6.3V-8A | L 340 | 340 | 6.3V-10A | | |
| | 1200 | L 465 | 250 | 6.3V-4A | L 435 | 300 | 6.3V-5A | OA | 21 1/2 |
| | | | 5V-6A | - | - | 5V-6A | 5 1/2 4 1/2 6 1/4 | | |

* After appropriate H series choke

The "H" series of hermetic power transformers are suited to a wide variety of electronic applications in both military and industrial service. Conservative design provides maximum reliability through low temperature rise and high insulation safety factors. All units are in MIL cases with rugged internal construction stainless steel studs.

The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and industrial applications (see page 11).



UTC HERMETIC SEALED PLATE TRANSFORMERS

To MIL-T-27A Specs., MIL Type TF1RX02—Case Number.
Primary: 105/115/210/220 Volts . . . 50/60 cycles.

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

All ratings are for choke input filter.

| No. Type | Sec. V. C.T. | Approx.* DC volts | MA DC | Choke No. | MA DC | Choke No. | Case A B C | Wgt. Lbs. |
|----------|--------------|-------------------|-------|-----------|------------|-------------|--------------------------|-----------|
| H-110 | 1050 | 365 | 275 | H-75 | 385 | H-77 | MB | |
| | 1200 | 430 | 250 | H-75 | 350 | H-77 | 4 1/4 4 1/4 5 1/4 | 14 |
| H-111 | 1050 | 415 | 440 | H-77 | 550 | H-77 | NA | |
| | 1200 | 480 | 400 | H-77 | 500 | H-77 | 5 1/4 4 1/4 6 1/4 | 19 |
| H-112 | 1500 | 615 | 290 | H-77 | 350 | H-77 | NA | |
| | 1900 | 790 | 250 | H-76 | 300 | H-76 | 5 1/4 4 1/4 6 1/4 | 19 |
| H-113 | 2500 | 1050 | 280 | H-77 | 340 | H-77 | 6 5 1/4 6 1/4 | 27 |
| | 3000 | 1275 | 250 | H-76 | 300 | H-76 | | |
| H-114 | 2500 | 1050 | 450 | H-79 | 500 | H-78 | 6 1/2 6 1/2 8 | 51 |
| | 3000 | 1265 | 400 | H-78 | 450 | H-78 | | |
| H-115 | 3500 | 1500 | 265 | H-77 | 350 | H-77 | 6 1/4 6 1/2 8 | 48 1/2 |
| | 4400 | 1900 | 225 | H-77 | 300 | H-77 | | |
| H-116 | 5000 | 2125 | 450 | H-79 | 560 | H-79 | 8 1/2 9 1/4 10 1/4 | 95 |
| | 6000 | 2550 | 400 | H-78 | 500 | H-78 | | |
| H-117 | 5000 | 2125 | 900 | H-79 | 1100 | H-79 | 11 11 14 1/4 | 160 |
| | 6000 | 2550 | 800 | H-79 | 1000 | H-79 | | |

*After filter choke.

The tapped high voltage winding on the "H" series hermetic plate transformers provides either of two secondary voltages for greatest versatility. The listing shows the DC voltage and permissible currents for a wide variety of applications in both military and industrial service. High insulation safety factor and low temperature rise provide a maximum in reliability. The first three types are in MIL cases. The others are in rectangular cases with terminals opposite mounting for greatest convenience in typical power supply application, stainless steel studs.

UTC HERMETIC SEALED FILTER CHOKES

To MIL-T-27A Specs., MIL Type TF1RX04—Case Number.

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

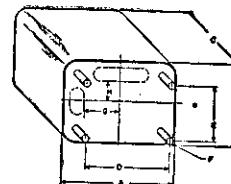
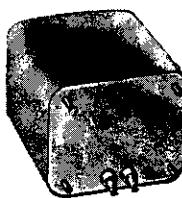
| Type No. | Ind. Hys. | @ MA DC | Res. Ohms | Max. DCV* Ch. Input | Test V. RMS | Case |
|----------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------------------|-------------|-------|
| H-70 | 20 | 20 | 18 | 25 | 14.5 | 30 | 10 | 35 | 925 | 350 | 1000 | AH |
| H-71 | 20 | 40 | 18.5 | 50 | 15.5 | 60 | 10 | 70 | 350 | 500 | 2500 | FB |
| H-72 | 13 | 70 | 11.5 | 85 | 9.5 | 105 | 7 | 125 | 215 | 500 | 2500 | GB |
| H-73 | 11 | 100 | 9.5 | 125 | 7.5 | 150 | 5.5 | 175 | 150 | 700 | 2500 | JB |
| H-74 | 11 | 150 | 10 | 170 | 8.5 | 195 | 6.5 | 215 | 135 | 700 | 2500 | JB |
| H-75 | 11 | 200 | 10 | 230 | 8.5 | 250 | 6.5 | 300 | 90 | 700 | 2500 | KB |
| H-76 | 11 | 200 | 18 | 230 | 8.5 | 250 | 6.5 | 300 | 85 | 1500 | 4500 | LB |
| H-77 | 10 | 300 | 9 | 350 | 8 | 390 | 6.5 | 435 | 60 | 2000 | 5500 | MB |
| H-78 | 7 | 400 | 6.5 | 430 | 6 | 465 | 5.5 | 500 | 48 | 2500 | 7000 | OA |
| H-79 | 7 | 800 | 6.5 | 900 | 6 | 1000 | 5.5 | 1250 | 20 | 3000 | 9000 | 7x7x8 |

Inductance test is performed at maximum military current rating.

* Based on maximum ripple voltage across choke in choke input filter circuit, in terms of DC output voltage. Does not apply to condenser input circuits.



The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and industrial applications. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. All units employ rugged internal construction and MIL cases (except H-79 which has mounting opposite terminals), stainless steel studs.



DIMENSIONS "H" SERIES FILTER CHOKES, INCHES

| Type No. | A | B | C | D | E | F | G | H | Cutout | Wt. Lbs. |
|----------|-------|-------|-------|----------------|-------|-----------|-----------------|-------------|--------|----------|
| H-70 | 1 1/8 | 1 1/8 | 1 3/4 | 1 1/4 diagonal | | 6-32(2) | 1 1/8 | 3/8 x 5/8 | | .4 |
| H-71 | 2 1/8 | 2 1/8 | 2 1/2 | 1 1/8 | 1 1/8 | 6-32 | 1 5/8 | 1/2 x 1 1/4 | 1 1/2 | |
| H-72 | 2 3/4 | 2 3/4 | 2 1/2 | 2 1/8 | 1 3/4 | 6-32 | 1 7/8 | 1/2 x 7/8 | 2 1/2 | |
| H-73 | 3 1/8 | 2 5/8 | 3 1/8 | 2 1 1/4 | 1 3/8 | 8-32 | 5/8 | 5/8 x 1 1/8 | 3 1/2 | |
| H-74 | 3 1/8 | 3 1/8 | 3 7/8 | 2 5/8 | 2 1/8 | 8-32 | 5/8 | 5/8 x 1 1/8 | 5 | |
| H-75 | 3 1/8 | 3 3/8 | 4 1/8 | 3 | 2 1/8 | 10-32 | 1 1/8 | 5/8 x 2 1/8 | 8 | |
| H-76 | 4 1/8 | 3 1/8 | 4 1/2 | 3 1/8 | 2 1/8 | 10-32 | 1 5/8 | 1/2 x 1 1/8 | 11 | |
| H-77 | 4 1/8 | 4 | 4 1/8 | 3 1/8 | 3 | 1/4-20 | 1 1/2 | 1/2 x 1 1/4 | 15 | |
| H-78 | 5 1/2 | 4 1/2 | 6 3/4 | 3 3/4 | 3 | 1/4-20 | 1 x 2 | | 25 | |
| H-79 | 7 | 7 | 8 | 5 7/8 | 5 7/8 | 3/8-16(6) | term. opp. mtg. | | 60 | |

UTC HERMETIC SEALED FILAMENT TRANSFORMERS

To MIL-T-27A Specs., MIL Type TF1RX01—Case Number.

Primary: 105/115/210/220 volts ... 50/60 cycles, except H-130 (115 v.) and H-131 (115/220 v.)

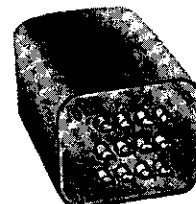
Suited to 400 cycle service

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

| Type No. | Sec. Volts | Amps. (MIL) | Amps. (Ind.) | Test Volts RMS | Case | A | B | C | Wgt. Lbs. |
|----------|--------------|-------------|--------------|----------------|------|--------|---------|--------|-----------|
| H-120 | 2.5 | 10 | 12 | 4000 | GB | 2 3/4 | 2 1/8 | 2 1/4 | 2 1/2 |
| H-121 | 2.5 | 10 | 12 | 10000 | JB | 3 7/16 | 3 1/16 | 3 1/8 | 4 1/2 |
| H-122 | 2.5 | 20 | 26 | 10000 | KB | 3 1/16 | 3 1/16 | 3 1/8 | 6 |
| H-123 | 2.5 | 5 | 7.5 | 10000 | NB | 5 1/16 | 4 1/16 | 5 1/2 | 13 |
| | 2.5 | 5 | 7.5 | | | | | | |
| | 10 | 15 | | | | | | | |
| H-124 | 5 | 3 | 3 | 2000 | FB | 2 1/8 | 2 1/8 | 2 1/2 | 2 |
| H-125 | 5 | 10 | 12 | 10000 | KB | 3 1/16 | 3 1/16 | 4 1/16 | 6 |
| H-126 | 5 | 20 | 25 | 10000 | LA | 4 1/16 | 3 1/16 | 5 1/16 | 10 |
| H-127 | 5 | 20 | 30 | 21000 | NA | 5 1/16 | 4 1/16 | 5 1/2 | 17 |
| H-128 | 5 | 60 | 75 | 21000 | | 6 1/2 | 5 1/2 | 7 1/4 | 34 |
| H-129 | 5 | 10 | 12 | 21000 | | 6 1/2 | 5 1/2 | 7 1/4 | 28 |
| | 5 | 10 | 12 | | | | | | |
| | 20 | 24 | | | | | | | |
| H-130 | 6.3CT | .6 | .75 | 1500 | AJ | 1 1/8 | 1 1/8 | 2 1/8 | .65 |
| H-131 | 6.3CT | 2 | 2.5 | 2500 | FB | 2 1/8 | 2 1/8 | 2 1/2 | 1 1/2 |
| H-132 | 6.3CT | 6 | 7 | 2500 | JA | 3 1/16 | 3 1/16 | 4 1/8 | 6 |
| H-133 | 6.3CT | 7 | 8 | 2500 | HB | 3 1/16 | 2 1/8 | 3 1/16 | 3 1/2 |
| H-134 | 6.3CT | 10 | 12 | 2500 | HA | 3 1/16 | 2 1/8 | 4 1/4 | 4 1/2 |
| H-135 | 10CT | 10 | 13 | 2500 | JB | 3 1/16 | 3 1/16 | 3 1/8 | 6 |
| H-136 | 14, 12, 11CT | 10 | 14 | 2500 | LA | 4 1/16 | 3 11/16 | 5 1/4 | 11 |

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The wide variety of "H" series filament transformers listed cover virtually every military and industrial need. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. Except for H-128 and H-129 which have terminals opposite mounting, all units are in MIL cases with rugged internal construction, stainless steel studs. Regulation has been a fundamental design consideration to provide for the diverse applications in which these units may be employed.



(Refer to Page N-749 for UTC Prices)

The MASTER — 23rd Edition

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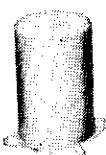


HERMETIC AUDIO COMPONENTS

Hermetically sealed to MIL-T-27A Specs.

For twenty-five years UTC has been the largest supplier of transformer components for military applications, to customer specifications. Listed below are a number of types, to MIL-T-27A specifications, which are now catalogued as UTC stock items. All units employ glass bead headers or terminals. For printed circuit use, wire terminals on glass header units can be straightened out without injury. Straight wire terminals available on production orders as well as flat ($\frac{1}{8} \times \frac{3}{16} \times \frac{1}{4}$) case for SM units. The frequency response ratings are based on military requirements. Actually, most of the units that do not carry DC are appreciably better in response than the range shown. For example, H-1, H-3, H-5, H-8 are within 2db from 30 to 20,000 cycles. The level ratings are maximum level for reasonable distortion at the lowest frequency specified. For higher frequencies considerably higher levels are permissible. For example, the H-3 will handle +21dbm at 400 cycles. The Impedance ratings are listed in standard manner. Transformers can be used for applications differing considerably from those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source impedance reduces them. Units may also be used reversed, input to secondary.

MINIATURE AUDIO UNITS . . . RC-25 CASE

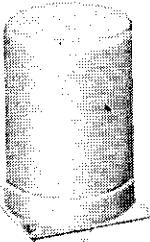


RC-25 CASE

Length $1\frac{1}{2}$ "
Width $\frac{1}{16}$ "
Height $1\frac{1}{4}$ "
Mounting (slot centers) $1\frac{1}{8}$ to $1\frac{1}{4}$ "
Screws 4-40 FFL.
Cutout $\frac{3}{8}$ Dia.
Unit Weight 1.5 oz.

| Type No. | Application | MIL Type | Pri. Imp. Ohms | Sec. Imp. Ohms | Unbal. DC in Pri. MA | Response ± 2 db (Cyc.) | Max. level dbm |
|----------|--|-----------|---|----------------|----------------------|------------------------|----------------|
| H-1 | Mike, pickup, line to grid | TF4RX10YY | 50, 200 CT, 500 CT* | 50,000 | 0 | 50-10,000 | +5 |
| M-2 | Mike to grid | TF4RX11YY | 82 | 135,000 | .50 | 250-8,000 | +18 |
| H-3 | Single plate to single grid, | TF4RX15YY | 15,000 | 60,000 | 0 | 50-10,000 | +6 |
| H-4 | Single plate to single grid, DC in Pri. | TF4RX15YY | 15,000 | 60,000 | 4 | 200-10,000 | +14 |
| H-5 | Single plate to P.P. grids | TF4RX15YY | 15,000 | 95,000 CT | 0 | 50-10,000 | +5 |
| H-6 | Single plate to P.P. grids, DC in Pri. | TF4RX15YY | 15,000 | 95,000 split | 4 | 200-10,000 | +11 |
| H-7 | Single or P.P. plates to line | TF4RX13YY | 20,000 CT | 150/600 | 4 | 200-10,000 | +21 |
| H-8 | Mixing and matching | TF4RX16YY | 150/600 | 600 CT | 0 | 50-10,000 | +8 |
| H-9 | 82/41:1 Input to grid | TF4RX10YY | 150/600 | 1 meg. | 0 | 200-3,000 (4 dB.) | +10 |
| H-10 | 10:1 single plate to 1 grid. | TF4RX15YY | 10,000 | 1 meg. | 0 | 200-3,000 (4 dB.) | +10 |
| H-11 | Reactor | TF4RX20YY | 300 Henries-0 DC, 50 Henries-0 Ma. DC, 6,000 ohms | | | | |
| H-12 | Mike, line to PP grids | TF4RX10YY | 50,200 CT, 500 CT* | 50,000 CT | 0 | 50-10,000 | +5 |
| H-13 | Transistor Interstage | TF4RX13YY | 10K/2.5K, Split | 2K/1.5K split | 4 | 100-10,000 | +20 |
| H-14 | Transistor Interstage | TF4RX13YY | 10K/2.5K, Split | 4K/1K split | 4 | 100-10,000 | +20 |
| H-15 | Transistor to line | TF4RX13YY | 1,500 CT | 500/125 split | 8 | 100-10,000 | +20 |
| H-16 | Transistor to V.C. | TF4RX13YY | 2,000 CT | 8 | 4 | 100-10,000 | +20 |
| | | | 4,000 CT | 16 | | | |

COMPACT AUDIO UNITS . . . RC-50 CASE



C-50 CASE

Length $1\frac{1}{4}$ "
Width $1\frac{1}{4}$ "
Height $2\frac{1}{8}$ "
Mounting $1\frac{1}{4}$ "
Screws #6-32
Cutout $1\frac{1}{2}$ Dia.
Unit Weight 8 oz.

| Type No. | Application | MIL Type | Pri. Imp. Ohms | Sec. Imp. Ohms | Unbal. DC in Pri. MA | Response ± 2 db (Cyc.) | Max. level dbm |
|----------|---|-----------|--|----------------------|----------------------|------------------------|----------------|
| H-19A | Line to grid, Balanced, 1:14 ratio, Multiple hi-permalloy (75 DB) shielding | TF4RX10YY | 250 CT 500 CT | 50,000 100,000 CT | 0 | 30-20,000 | +6 |
| H-20 | Single plate to 2 grids, can also be used for P.P. plates | TF4RX15YY | 15,000 split | 80,000 split | 0 | 30-20,000 | +12 |
| H-21 | Single plate to P.P. grids, DC in Prl. | TF4RX15YY | 15,000 | 80,000 split | 8 | 100-20,000 | +23 |
| H-22 | Single plate to multiple line | TF4RX13YY | 15,000 | 50/200, 125/500** | 8 | 50-20,000 | +23 |
| H-23 | P.P. plates to multiple line | TF4RX13YY | 30,000 split | 50/200, 125/500** | 8 | 30-20,000 | +19 |
| H-24 | Reactor | TF4RX20YY | 450 Hys.-0 DC, 250 Hys.-5 Ma. DC, 6,000 ohms 65 Hys.-10 Ma. DC, 1500 ohms | | | | |
| H-25 | Mixing of transistors to line | TF4RX17YY | 500 CT | 500/125 split | 20 | 40-10,000 | +30 |
| H-26 | Transistor Interstage | TF4RX13YY | 10,000/2,500 (split) | 2,000/500 split | 8 | 40-10,000 | +30 |
| H-27 | Transistor to V.C. | TF4RX17YY | 500 CT | 16/4 split | 20 | 40-10,000 | +30 |
| H-28 | Transistor driver | TF4RX17YY | 200 CT | 400 Split | 20 | 40-20,000 | +30 |
| H-281 | Transistor to V.C. | TF4RX17YY | 48 CT | 16, 8, 4 | 750 BAL | 40-20,000 | 5 WATTS |
| H-282 | Transistor to V.C. RC-62 case, Pg. 29. | TF4RX17YY | 20 CT | 16, 8, 4 | 1000 BAL | 40-20,000 | 10 WATTS |
| H-290 | Chopper transf., electrostat. & triple mag. shid. | TF4RX10YY | 2,500 c.s. ($\frac{1}{2}$ Pri.) | 100 K ratio 1:6.4 | 0 | 60-400 | +5 |
| H-291 | Chopper transf., higher gain, 20 db better shielding. RC-62 case, Pg. 29. | TF4RX10YY | 2,000/500 e.s. ($\frac{1}{2}$ Pri.) | 312K ratio 1:25/12.5 | 0 | 60-400 | +10 |

SUBMINIATURE AUDIO UNITS . . . SM CASE



SM CASE

Length $1\frac{1}{4}$ "
Width $\frac{1}{2}$ "
Height $\frac{3}{16}$ "
Screw 4-40 FFL.
Unit Weight 8 oz.

| Type No. | Application | MIL Type | Pri. Imp. Ohms | Sec. Imp. Ohms | Unbal. DC in Pri. MA | Response ± 2 db (Cyc.) | Max. level dbm |
|----------|-----------------------------|-----------|---|----------------|----------------------|------------------------|----------------|
| H-30 | Input to grid | TF4RX10YY | 50*** | 62,500 | 0 | 150-10,000 | +13 |
| H-31 | Single plate to 1 grid, 3:1 | TF4RX15YY | 10,000 | 90,000 | 0 | 300-10,000 | +13 |
| H-32 | Single plate to line | TF4RX13YY | 10,000**** | 200 | 3 | 300-10,000 | +15 |
| H-33 | Single plate to low imp. | TF4RX13YY | 30,000 | 50 | 1 | 300-10,000 | +15 |
| H-35 | Reactor | TF4RX20YY | 100 Henries-0 DC, 50 Henries-1 Ma. DC, 4,400 ohms | | | | |
| H-36 | Transistor Interstage | TF4RX15YY | 25,000 (DCR800) | 1,000 (DCR110) | .5 | 300-10,000 | +10 |
| H-37A | Transistor output | TF4RX15YY | 500 (DCR50) CT | 50 (DCR5) | 3.5 | 300-10,000 | +15 |
| H-38 | Transistor Interstage | TF4RX13YY | 10,000 CT (DCR600) | 1,200 CT | 2 | 300-10,000 | +15 |
| H-39 | Transistor Interstage | TF4RX13YY | 10,000 CT (DCR600) | 2,000 CT | 2 | 300-10,000 | +15 |
| H-40A | Transistor output | TF4RX17YY | 500 CT (DCR26) | 600 CT | 10 | 300-10,000 | +15 |
| H-41A | Transistor output | TF4RX13YY | 1,500 CT (DCR7) | 600 CT | 7 | 300-10,000 | +15 |

* 200 ohm termination can be used for 150 ohms or 250 ohms. 500 ohm termination can be used for 600 ohms.
** 200 ohm termination can be used for 150 ohms or 250 ohms, 125/500 ohm termination for 150/600 ohms.
*** Can be used with higher source impedances, with corresponding reduction in frequency range. With 200 ohm source, impedance becomes 250,000 ohms . . . loaded response is -4 db at 300 cycles.
**** Can be used for 500 ohm load . . . 25,000 ohm primary impedance . . . 1.5 Ma. DC.

UTC DO-T and DI-T TRANSFORMERS

REVOLUTIONARY TRANSISTOR* TRANSFORMERS, hermetically sealed to MIL-T-27A Specs.



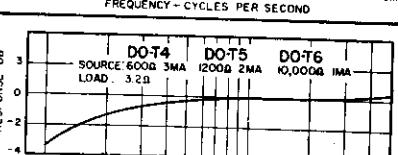
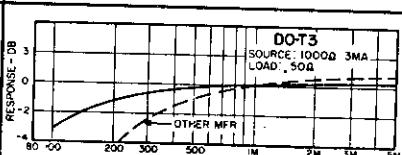
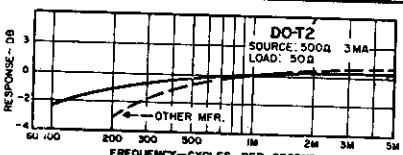
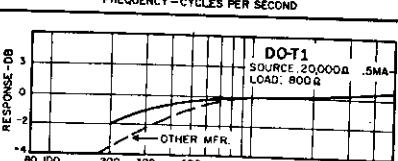
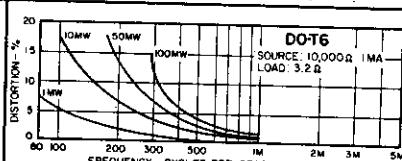
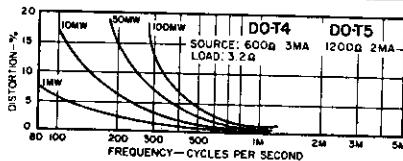
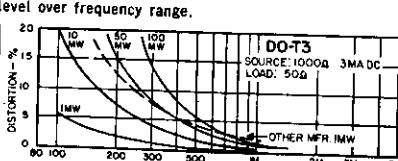
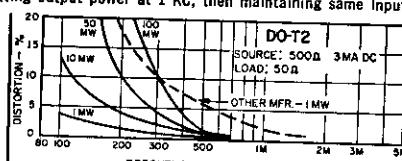
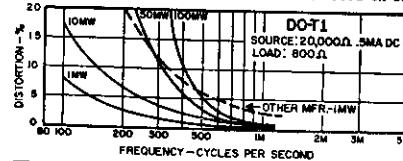
To fully appreciate DO-T transistor transformers, the curves below indicate their performance compared to that of similar size units now on the market. DI-T transformers are still smaller in size. Power rating and other characteristics are identical to DO-T, but low frequency response (3 db down point) is 30% higher in frequency.

Units can be used for different impedances than those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source will reduce order. If clip mounted, use Augat #6009-8A clip.

| DO-T No. | MIL Type | Application | Pri. Imp. | D.C. Mag. in Pri. | Sec. Imp. | Pri. Res. | Level Mw. | DI-T No. |
|----------|---|---|------------------------|-------------------|--------------------|-----------|-----------|----------|
| DO-T1 | TF4RX13YY | Interstage | 20,000 30,000 | .5 .5 | 800 1200 | 850 | 50 | |
| DO-T2 | TF4RX17YY | Output | 500 600 | 3 3 | 50 60 | 60 | 100 | DI-T2 |
| DO-T3 | TF4RX13YY | Output | 1000 1200 | 3 3 | 50 60 | 115 | 100 | DI-T3 |
| DO-T4 | TF4RX17YY | Output | 600 | 3 | 3.2 | 60 | 100 | |
| DO-T5 | TF4RX13YY | Output | 1200 | 2 | 3.2 | 115 | 100 | |
| DO-T6 | TF4RX13YY | Output | 10,000 | 1 | 3.2 | 1000 | 100 | |
| DO-T7 | TF4RX16YY | Input | 200,000 | 0 | 1000 | 8500 | 25 | |
| DO-T8 | TF4RX20YY | Radiator 3.5 Hys. @ 2 Ma. DC, 1 Hy @ 5 Ma. DC (DI-T8 is 2.5 Hy @ 2 Ma.) | | | | | | DI-T8 |
| DO-T9 | TF4RX13YY | Output or driver | 10,000 12,500 | 1 1 | 500 CT 600 CT | 800 | 100 | DI-T9 |
| DO-T10 | TF4RX13YY | Driver | 10,000 12,500 | 1 1 | 1200 CT 1500 CT | 800 | 100 | DI-T10 |
| DO-T11 | TF4RX13YY | Driver | 10,000 12,000 | 1 1 | 2000 CT 2500 CT | 800 | 100 | DI-T11 |
| DO-T12 | TF4RX17YY | Single or PP output | 150 CT 200 CT | 10 10 | 12 | 11 | 500 | |
| DO-T13 | TF4RX17YY | Single or PP output | 300 CT 400 CT | 7 7 | 12 | 20 | 500 | |
| DO-T14 | TF4RX17YY | Single or PP output | 600 CT 800 CT | 5 5 | 12 | 43 | 500 | |
| DO-T15 | TF4RX17YY | Single or PP output | 800 CT 1070 CT | 4 4 | 12 | 51 | 500 | |
| DO-T16 | TF4RX13YY | Single or PP output | 1000 CT 1330 CT | 3.5 3.5 | 12 | 71 | 500 | |
| DO-T17 | TF4RX13YY | Single or PP output | 1500 CT 2000 CT | 3 3 | 12 | 108 | 500 | |
| DO-T18 | TF4RX13YY | Single or PP output | 7500 CT 10,000 CT | 1 1 | 12 | 505 | 500 | |
| DO-T19 | TF4RX17YY | Output to line | 300 CT | 7 | 600 | 19 | 500 | DI-T19 |
| DO-T20 | TF4RX17YY | Output or matching to line | 500 CT | 5.5 | 600 | 31 | 500 | DI-T20 |
| DO-T21 | TF4RX17YY | Output to line | 900 CT | 4 | 600 | 53 | 500 | |
| DO-T22 | TF4RX13YY | Output to line | 1500 CT | 3 | 600 | 86 | 500 | DI-T22 |
| DO-T23 | TF4RX13YY | Interstage | 20,000 CT 30,000 CT | .5 .5 | 800 CT 1200 CT | 850 | 100 | DI-T23 |
| DO-T24 | TF4RX16YY | Input (usable for chopper service) | 200,000 CT | 0 | 1000 CT | 8500 | 25 | |
| DO-T25 | TF4RX13YY | Interstage | 10,000 CT 12,000 CT | 1 1 | 1500 CT 1800 CT | 800 | 100 | |
| DO-T26 | TF4RX20YY | Radiator 6 Hy. @ 2 Ma. DC, 1.5 Hy. @ 5 Ma. DC | | | | | 2100 | |
| DO-T27 | TF4RX20YY | Radiator 1.25 Hy. @ 2 Ma. DC, .5 Hy. @ 11 Ma. DC | | | | | 100 | |
| DO-TSH | Drawn Hipermalloy shield and cover for DO-T's provides 25 to 30 db shielding. | | | | | | | |

*DCMA shown is for single ended usage (under 5% distortion—100MW—1KC) . . . for push pull, DCMA can be any balanced value taken by .5W transistors (under 5% distortion—500MW—1KC)

Power curves based on setting output power at 1 KC, then maintaining same input level over frequency range.



*DO-T and DI-T units have been designed for transistor application only . . . not for vacuum tube service, Pats. Pending

High Power Rating . . . up to 100 times greater.

Excellent Response . . . twice as good at low end.

Low Distortion . . . reduced 80%.

High Efficiency . . . up to 30% better.

Moisture Proof . . . hermetically sealed to MIL-T-27A.

Rugged . . . completely cased.

Anchored Leads . . . will withstand 10 pound pull test.

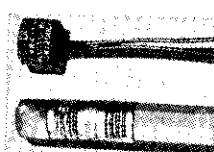
Printed Circuit Use . . . (solder melting) plastic insulated leads.

ACTUAL SIZE



DO-T CASE

Dia. . . . 5/16"
Length . . . 13/32"
Weight . . . 1/10th oz.



DI-T CASE

Dia. . . . 5/16"
Length . . . 1/2"
Weight06 oz.



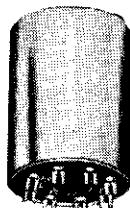
OUNCER AUDIO UNITS STANDARD AND PLUG-IN TYPES

Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform within approximately 1 dB from 30 to 20,000 cycles, except for 0-14, 0-15, and units carrying DC which are intended for voice frequencies. Maximum level +8 dbm, $\frac{7}{8}$ dia., 1 oz.

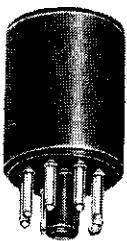
"P" series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug-in base to fit standard octal socket. While of submersion proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets.

OUNCER

| Type No. | Application | Pri. Imp. | Sec. Imp. | PLUG-IN Type No. |
|----------|--|----------------------------|----------------------|------------------|
| 0-1 | Mike, pickup or line to 1 grid | 50, 200/250, 500/600 | 50,000 | P-1 |
| 0-2 | Mike, pickup or line to 2 grids | 50, 200/250, 500/600 | 50,000 CT | P-2 |
| 0-3 | Dynamic mike to 1 grid | 7.5/30 | 50,000 | P-3 |
| 0-4 | Single plate to 1 grid | 15,000 | 60,000 | |
| 0-5 | Single plate to 1 grid, D.C. in Pri. | 15,000 | 60,000 | |
| 0-6 | Single plate to 2 grids | 15,000 | 95,000 CT | P-6 |
| 0-7 | Single plate to 2 grids, D.C. in Pri. | 15,000 | 95,000 CT | P-7 |
| 0-8 | Single plate to line | 15,000 | 50, 200/250, 500/600 | P-8 |
| 0-9 | Single plate to line, D.C. in Pri. | 15,000 | 50, 200/250, 500/600 | P-9 |
| 0-10 | Push pull plates to line | 30,000 ohms plate to plate | 50, 200/250, 500/600 | P-10 |
| 0-11 | Crystal mike or pick-up to line | 50,000 | 50, 200/250, 500/600 | P-11 |
| 0-12 | Mixing and matching | 50, 200/250 | 50, 200/250, 500/600 | P-12 |
| 0-13 | Reactor, 300 Hys.-no D.C.; 50 Hys.-3 MA. D.C., 6000 ohms | | | |
| 0-14 | 50:1 mike or line to 1 grid | 200 | $\frac{1}{2}$ megohm | |
| 0-15 | 10:1 single plate to 1 grid | 15,000 | 1 megohm | P-15 |
| 0-16 | Mike or line to grid | 250 C.T. | 50,000 | |
| | This transformer provides very low hum pickup . . . employs two heavy gauge hipermalloy shields plus orientable mounting. Primary centertap is balanced to 1%. Can be used for 150, 200, 250, 500, or 600 ohm sources . . . 200:1 impedance ratio. | | | |
| | Same as 0-16 but with nine pin plug in socket. $\frac{1}{4}$ Dia. x $2\frac{3}{8}$ high, 4 oz. | | | P-16 |
| 0-17 | Hipermalloy shield, slip fit over ouncer, $1\frac{1}{2}$ O.D., provides 25 db shielding. | | | |
| 0-18 | Transistor Interstage | 10,000/2,500 (split) | 2,000/500 (split) | |
| 0-19 | Transistor Interstage | 10,000/2,500 (split) | 4,000/1,000 (split) | |
| 0-20 | Transistor to line | 1,500 CT | 500/125 (split) | |
| 0-21 | Transistor to voice coil | 2,000 CT | 8 | |
| | Imp. ratio 250:1 | 4,000 CT | 16 | |



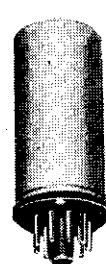
Ouncer chassis
mount bracket
available on
orders



PLUG-IN
CASE

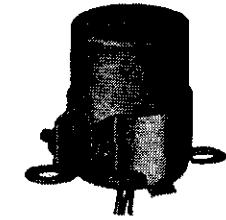
Dia. $\frac{7}{8}$ "
Ht. $1\frac{1}{4}$ "
Mtg. $1\frac{1}{4}$ "
Scr. 2-56
Wt. 1 oz.

Dia. $1\frac{3}{4}$ "
Ht. $1\frac{1}{2}$ "
Skt. St. Oct.
Wt. 2 oz.



0-16
CASE

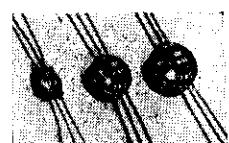
Dia. $1\frac{1}{4}$ "
Ht. $1\frac{1}{2}$ "
Mtg. $1\frac{1}{2}$ "
Scr. 6-32
Wt. 3 oz.
Clamp ... $1\frac{1}{4}$ " x $1\frac{1}{8}$ "



MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

Hermetically sealed to MIL-T-27A Specs. . . . all units MIL type TF5SX36ZZ

UTC miniature, wound core, pulse transformers are precision, high reliability units, hermetically sealed by vacuum molding and suited for service from -70° C. to $+130^{\circ}$ C. Wound core structure provides excellent temperature stability (unlike ferrite). Designs are high inductance type to provide minimum of droop and assure true pulse width, as indicated on chart below. If used for coupling circuit where minimum rise time is important, use next lowest type number. Rise time will be that listed for this lower type number . . . droop will be that listed multiplied by ratio of actual pulse width to value listed for this type number. Block oscillator data listed is obtained in standard test circuit shown. Coupling data was obtained with H. P. 212A generator (correlated for H-55, 56, 57) and source/load impedances shown. Three windings, 1:1:1.



| Type No. | APPROX. DCR, OHMS | | | BLOCKING OSCILLATOR PULSE | | | | | | COUPLING CIRCUIT CHARACTERISTICS | | | | | | DIMENSIONS | | |
|----------|--|-----|-----|---------------------------|-----------|--------------|---------|--------------|---------------------|----------------------------------|-----------|--------------|---------|--------------|--------------------|---------------|---------------|-----------|
| | 1-2 | 3-4 | 4-5 | Width μ Sec. | Rise Time | % Over Shoot | Droop % | % Back Swing | P. Width μ Sec. | Volts Out | Rise Time | % Over Shoot | Droop % | % Back Swing | Imp. in, out, ohms | L. In. | W. In. | Wt. Grams |
| H-45 | 3 | 3.5 | 4 | .05 | .022 | 0 | 20 | 10 | .05 | 17 | .01 | 20 | 0 | 35 | 250 | $\frac{3}{8}$ | $\frac{3}{8}$ | 1 |
| H-46 | 5.5 | 6.5 | 7 | .10 | .024 | 0 | 25 | 10 | .10 | 19 | .01 | 30 | 10 | 50 | 250 | $\frac{3}{8}$ | $\frac{3}{8}$ | 1 |
| H-47 | 3.7 | 4.0 | 4 | .20 | .026 | 0 | 25 | 8 | .20 | 18 | .01 | 30 | 15 | 65 | 500 | $\frac{3}{8}$ | $\frac{3}{8}$ | 4 |
| H-48 | 5.5 | 5.8 | 6 | .50 | .03 | 0 | 20 | 5 | .50 | 20 | .01 | 30 | 20 | 65 | 500 | $\frac{3}{8}$ | $\frac{3}{8}$ | 4 |
| H-49 | 8 | 8.5 | 9 | 1 | .04 | 0 | 20 | 10 | 1 | 24 | .02 | 15 | 15 | 65 | 500 | $\frac{3}{8}$ | $\frac{3}{8}$ | 4 |
| H-50 | 20 | 21 | 22 | 2 | .05 | 0 | 20 | 10 | 2 | 27 | .05 | 10 | 15 | 35 | 500 | $\frac{3}{8}$ | $\frac{3}{8}$ | 4 |
| H-51 | 28 | 31 | 33 | 3 | .10 | 1 | 20 | 8 | 3 | 26 | .07 | 10 | 10 | 35 | 500 | $\frac{3}{8}$ | $\frac{3}{8}$ | 4 |
| H-52 | 36 | 41 | 44 | 5 | .13 | 1 | 25 | 8 | 5 | 23 | .15 | 10 | 10 | 45 | 1000 | $\frac{3}{8}$ | $\frac{3}{8}$ | 4 |
| H-53 | 37 | 44 | 49 | 7 | .28 | 0 | 25 | 8 | 7 | 24 | .20 | 10 | 10 | 50 | 1000 | $\frac{3}{8}$ | $\frac{3}{8}$ | 6 |
| H-54 | 50 | 58 | 67 | 10 | .30 | 0 | 20 | 8 | 10 | 24 | .25 | 10 | 10 | 50 | 1000 | $\frac{3}{8}$ | $\frac{3}{8}$ | 6 |
| H-55 | 78 | 96 | 112 | 16 | .75 | 0 | 20 | 10 | 16 | 23 | .40 | 5 | 15 | 20 | 1000 | $\frac{3}{8}$ | $\frac{3}{8}$ | 6 |
| H-56 | 93 | 116 | 138 | 20 | 1.25 | 0 | 25 | 10 | 20 | 23 | .6 | 5 | 10 | 10 | 1000 | $\frac{3}{8}$ | $\frac{3}{8}$ | 6 |
| H-57 | 104 | 135 | 165 | 25 | 2.0 | 0 | 30 | 10 | 25 | 24 | 1.5 | 5 | 10 | 10 | 1000 | $\frac{3}{8}$ | $\frac{3}{8}$ | 6 |
| H-58 | Pulse transformer kit. Consists of one of each of the above units in a partitioned plastic case. Ideal for the laboratory. | | | | | | | | | | | | | | | | | |

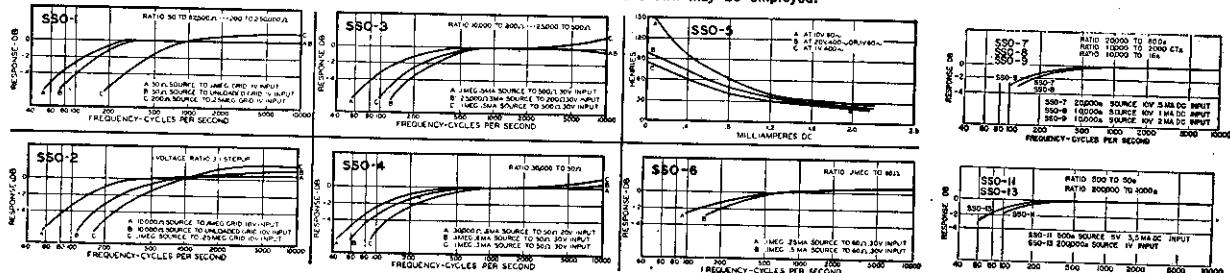
SUB-SUBOUNCER UNITS FOR HEARING AIDS AND ULTRA-MINIATURE EQUIPMENT



UTC-Sub-Sub-Ouncer units fulfill an essential requirement for ultra-miniaturized components having high efficiency and wide frequency response characteristics. The coils employ automatic layer windings of double Formex wire . . . in a molded Nylon bobbin. All insulation is of cellulose acetate. Four inch color coded flexible leads are employed, securely anchored mechanically. No mounting facilities are provided, since this would preclude maximum flexibility in location. Units are vacuum processed and double (water proof) sealed. The curves below indicate the excellent frequency response available.

| Type | Application | Max. Level dbm | Pri. Imp. ohms | MA D.C. in Pri. | Sec. Imp. ohms | Pri. Res. ohms | Sec. Res. ohms |
|---------|--|----------------|----------------|-----------------|----------------|----------------|----------------|
| *SSO-1 | Input | + 7 | 200 | 0 | 250,000 | 13.5 | 3600 |
| | | | 50 | | 62,500 | | |
| SSO-2 | Interstage/3:1 | +15 | 10,000 | 0.25 | 90,000 | 710 | 3150 |
| *SSO-3 | Plate to Line | +20 | 10,000 | 3 | 200 | 2500 | 34 |
| SSD-4 | Output | +20 | 30,000 | 1.5 | 500 | | |
| SSD-5 | Reactor 50 HY at 1 mil. D.C. 4400 ohms D.C. Res. | | | 1.0 | 50 | 2875 | 4.6 |
| SSD-6 | Output | +20 | 100,000 | .5 | 60 | 3500 | 3.3 |
| *SSD-7 | Transistor Interstage | +20 | 20,000 | .5 | 800 | 800 | |
| | | | 30,000 | .5 | 1,200 | | |
| SSD-8 | Transistor to | +20 | 10,000 | 1 | 2,000 ct. | 1200 | 45 |
| | PP Sec. | | | | | | |
| SSD-9 | Transistor to V.C. | +20 | 10,000 | 2 | 16 | 800 | 2.7 |
| SSD-10 | Transistor to V.C. | +20 | 10,000 | 2 | 3.2 | 800 | .65 |
| *SSD-11 | Transistor Output | +20 | 500 | 3.5 | 50 | 50 | 5 |
| *SSD-12 | Transistor Output | +20 | 600 | 3.5 | 60 | | |
| SSD-13 | Crystal to Transistor | + 7 | 1,000 | 3 | 50 | 90 | 5 |
| | | | 1,200 | 3 | 60 | | |
| *SSD-14 | Transistor Interstage | +20 | 200,000 | 0 | 1,000 | 4000 | 180 |
| | | | 10,000 ct. | 2 | 200 ct. | 650 | 22 |
| *SSD-15 | Transistor Interstage | +20 | 25,000 ct. | 1 | 500 ct. | | |
| | | | 30,000 ct. | 1 | 800 ct. | 800 | 110 |
| | | | | | 1,200 ct. | | |

*Impedance ratio is fixed, 1:1250 for SSO-1, etc. Any impedance between the values shown may be employed.

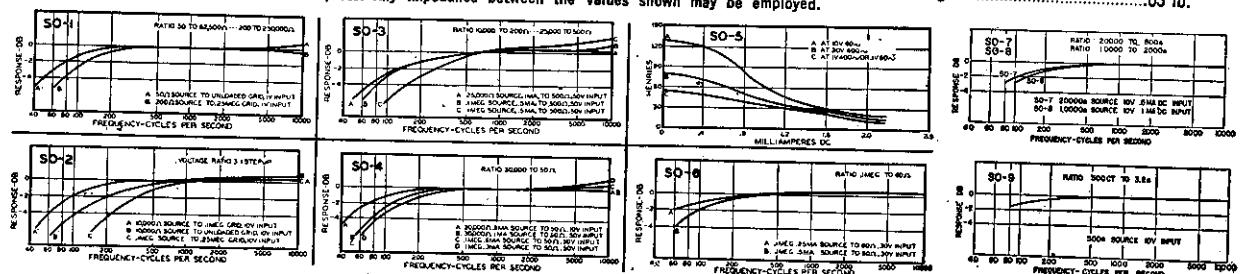


SUBOUNCER UNITS

UTC Sub-Ouncer units have exceptionally high efficiency and frequency range in their miniature size, will handle somewhat higher level than SSO units above. The constructional details are identical to those of the Sub-Sub-Ouncer units. Available hermetically sealed on production orders (SOM case $\frac{1}{16} \times \frac{1}{16} \times \frac{1}{16}$).

| Type | Application | Max. Level dbm | Pri. Imp. ohms | MA D.C. in Pri. | Sec. Imp. ohms | Pri. Res. ohms | Sec. Res. ohms |
|--------|--|----------------|----------------|-----------------|----------------|----------------|----------------|
| *SO-1 | Input | +10 | 200 | 0 | 250,000 | 16 | 2500 |
| | | | 50 | | 62,500 | | |
| SO-2 | Interstage/3:1 | +20 | 10,000 | 0.25 | 90,000 | 215 | 1850 |
| *SO-3 | Plate to Line | +23 | 10,000 | 3 | 200 | 1225 | 30 |
| SO-4 | Output | +23 | 25,000 | 1.5 | 500 | | |
| SO-5 | Reactor 50 HY at 1 mil. D.C. 2675 ohms D.C. Res. | | 30,000 | 1.0 | 50 | 1850 | 3.8 |
| SO-6 | Output | +23 | 100,000 | .5 | 60 | 3400 | 3.7 |
| *SO-7 | Transistor Interstage | +23 | 20,000 | .5 | 800 | 450 | 32 |
| | | | 30,000 | .5 | 1,200 | | |
| SO-8 | Transistor to PP Sec. | +23 | 10,000 | 1 | 2,000 ct. | 1,000 | 40 |
| SO-9 | PP Transistor to V.C. | +24 | 500 ct. | 0 | 3.2 | 15 | .35 |
| *SO-10 | Transistor output to voice coil | +24 | 2,000 ct. | 4 | 8 | 290 | 2 |
| | | | 4,000 ct. | 2 | 16 | | |

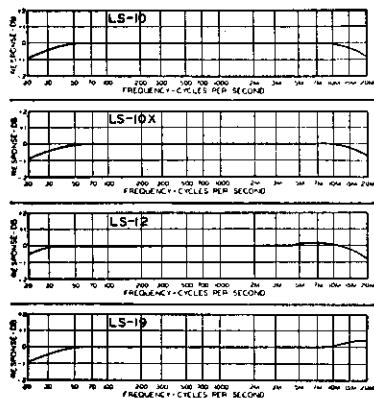
*Impedance ratio is fixed, 1:1250 for SO-1, etc. Any impedance between the values shown may be employed.





LINEAR STANDARD AUDIO TRANSFORMERS

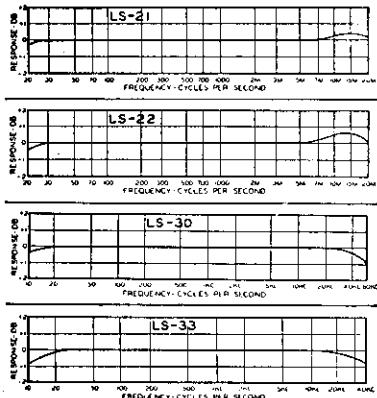
The ever increasing use of wide range equipment for broadcast service has reached the point where the major limiting factor is the frequency range of the transformers employed. UTC Linear Standard components represent the closest approach to the ideal transformer from the standpoint of uniform frequency response, low wave form distortion, high efficiency, thorough shielding, and dependability.



LOW IMPEDANCE TO GRID TRANSFORMERS

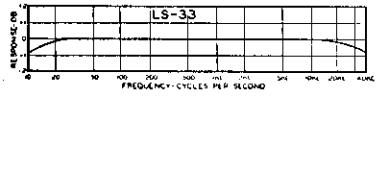
| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|----------|--|--|---------------------------------------|-----------------|----------------|----------------|---------------------|----------|
| LS-10 | Low impedance mike, pickup, or multiple line to grid | 50, 125/150, 200, 250, 333, 500/600 ohms | 60,000 ohms in two sections | 20-20,000 | +19 | -74 DB | .5 MA | LS-1 |
| LS-10X | As above | As above | 50,000 ohms | 20-20,000 | +17 | -92 DB-Q | .5 MA | LS-1 |
| LS-12 | Low impedance mike, pickup or multiple line to push pull grids | 50, 125/150, 200, 250, 333, 500/600 ohms | 120,000 ohms overall, in two sections | 20-20,000 | +19 | -74 DB | .5 MA | LS-1 |
| LS-12X | As above | As above | 80,000 ohms overall, split | 20-20,000 | +17 | -92 DB-Q | .5 MA | LS-1 |
| LS-14X | As above | As above | 50,000 ohms | 20-20,000 | +17 | -92 DB-Q | .5 MA | LS-1 |
| LS-15X | Three isolated lines or pads to one or two grids | 30, 50, 200, 250 ohms each primary | 60,000 ohms overall, in two sections | 20-20,000 | +17 | -92 DB-Q | .5 MA | LS-1 |
| LS-18 | High level multiple line to push pull grids | 50, 125/150, 200, 250, 333, 500/600 ohms | 50,000 ohms overall, in two sections | 20-20,000 | +28 | -50 DB | .5 MA | LS-2 |
| LS-26 | Bridging line to single or push pull grids | 5,000 ohms | 60,000 ohms in two sections | 15-20,000 | +23 | -74 DB | 0 MA | LS-1 |

MIXING TRANSFORMERS

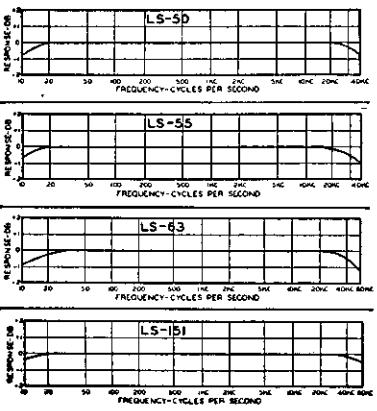


| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|----------|---|--|--|-----------------|----------------|----------------|---------------------|----------|
| LS-30 | Mixing, low impedance mike, pickup, or multiple line to multiple line | 50, 125/150, 200, 250, 333, 500/600 ohms | 50, 125/150, 200, 250, 333, 500/600 ohms | 7-50,000 | +23 | -74 DB | .5 MA | LS-1 |
| LS-30X | As above | As above | As above | 20-20,000 | +20 | -92 DB-Q | .3 MA | LS-1 |
| LS-31 | Three isolated lines or pads to multiple line | 30, 50, 200, 250 ohms each primary | 50, 125/150, 200, 250, 333, 500/600 ohms | 20-20,000 | +23 | -74 DB | .5 MA | LS-1 |
| LS-32 | Mixing, low impedance mike, pickup or parallel mixer to multiple line | 2.5, 5, 10, 15, 22, 30, 38, 60 ohms | 50, 125/150, 200, 250, 333, 500/600 ohms | 20-20,000 | +23 | -74 DB | .5 MA | LS-1 |

INTERSTAGE AUDIO TRANSFORMERS



| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|----------|---|----------------------------|---------------------------------------|-----------------|----------------|----------------|---------------------|----------|
| LS-19 | Single plate to push pull grids like 2A3, 6L6, 5881 Split secondary | 15,000 ohms | 95,000 ohms 1.25:1 each side | 20-20,000 | +20 | -50 DB | 0 MA | LS-1 |
| LS-21 | Single plate to push pull grids. Split pri. and sec. | 15,000 ohms | 135,000 ohms; 3:1 overall | 10-20,000 | +20 | -74 DB | 0 MA | LS-1 |
| LS-40 | Single plate to push pull grids. Split secondary | 15,000 ohms | 135,000 ohms; 3:1 overall | 30-20,000 | +20 | -74 DB | 8 MA | LS-1 |
| LS-25 | Push pull plates to push pull grids. Medium level. Split primary and sec. | 30,000 ohms plate to plate | 50,000 ohms; turn ratio 1.3:1 overall | 20-20,000 | +23 | -74 DB | 1 MA | LS-1 |

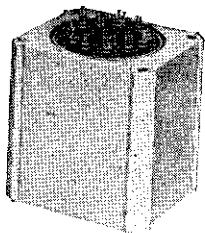


| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level dbm | Relative * hum | Unbal. DC in prim'y | Case No. |
|----------|--|-------------------------------|--|-----------------|----------------|----------------|---------------------|----------|
| LS-27 | Single plate to multiple line | 15,000 ohms | 50, 125/150, 200, 250, 333, 500/600 cycles | 30-15,000 | +23 | -74 DB | 8 MA | LS-1 |
| LS-50 | Single plate to multiple line | 15,000 ohms | 50, 125/150, 200, 250, 333, 500/600 | 10-40,000 | +23 | -74 DB | 0 MA | LS-1 |
| LS-51 | Push pull low level plates to multiple line | 30,000 ohms plate to plate | 50, 125/150, 200, 250, 333, 500/600 | 10-40,000 | +24 | -74 DB | 1 MA | LS-1 |
| LS-150 | Bridging from 50 to 500 ohm line to line, bridging | 4,000 ohms, 250, 333, 500/600 | 50, 125/150, 200, 250, 333, 500/600 | 7-50,000 | +23 | -74 DB | 1 MA | LS-1 |
| LS-151 | Bridging from 50 to 500 ohm line to line | 16,000 ohms, bridging | 50, 125/150, 200, 250, 333, 500/600 | 7-50,000 | +26 | -74 DB | 1 MA | LS-1 |

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.

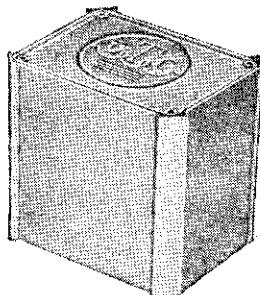
* Comparison of hum balanced unit with shielding to normal uncased type.

Q Multiple alloy magnetic shield.



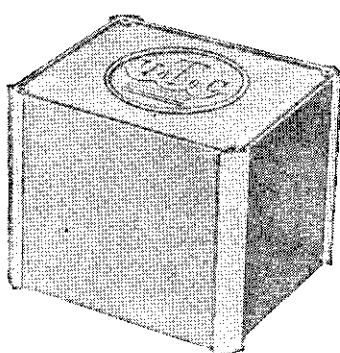
LS-1 CASE

| | |
|-------------|-----------------|
| Length | 3 1/8" |
| Width | 2 5/8" |
| Height | 3 1/4" |
| Mounting | 1 1/8" x 2 1/8" |
| Screws | 6-32 |
| Cutout | 1 1/8" dia. |
| Unit Weight | 3 lbs. |



LS-2 CASE

| | |
|-------------|-----------------|
| Length | 4 1/8" |
| Width | 3 1/2" |
| Height | 4 1/8" |
| Mounting | 2 1/8" x 3 1/8" |
| Screws | 8-32 |
| Cutout | 2 3/4" dia. |
| Unit Weight | 7.5 lbs. |



LS-3 CASE

| | |
|-------------|-----------------|
| Length | 5 1/8" |
| Width | 5" |
| Height | 4 1/8" |
| Mounting | 4 1/8" x 5 1/2" |
| Screws | 10-24 |
| Cutout | 3 3/4" dia. |
| Unit Weight | 15 lbs. |

LINEAR STANDARD



HYBRID AND REPEAT COILS

| Type No. | Application | Pri. and Sec. Impedances | ± 1 db from | Max. Level dbm | Relative hum | Max. Unbal. Case DC In Pri. No. |
|----------|--|--|-------------|----------------|--------------|---------------------------------|
| LS-140 | Line to line for isolating balanced and unbalanced circuits; balanced for maximum reduction cross talk (70 DB) | 500/600 ohms split 500/600 ohms split | 30-20,000 | +18 | -92 DB-Q | 0 MA LS-1 |
| LS-141 | Three sets of balanced windings for hybrid service, centertapped | 500/600 ohms 500/600 ohms | 30-15,000 | +18 | -74 DB | 0 MA LS-1 |

DRIVER TRANSFORMERS

| Type No. | Application | Primary Impedance | Ref. Sec. Impedance | ± 1 db from | Max. Level | Max. Unbal. Case DC In Pri. No. |
|----------|---|----------------------------|--|-------------|------------|---------------------------------|
| LS-6 | Driver, push pull 2A3's, etc., to push pull 845 or 211D grids | 5,000 ohms plate to plate | .225 primary impedance; turns ratio 1.5:1 overall | 20-20,000 | 15 watts | 5 MA LS-2 |
| LS-47 | Driver from push pull 2A3's, or similar to class B 838's, 805's, or 2B120's | 5,000 ohms plate to plate | .1 pri. impedance turns ratio, Pri./½ Sec. 3.2:1 | 20-20,000 | 20 watts | 5 MA LS-2 |
| LS-48 | Driver transformer push pull 845's to 805 grids in class B | 12,000 ohms plate to plate | .038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1 | 20-20,000 | 40 watts | 15 MA LS-3 |

HIGH LEVEL MATCHING TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level | Case No. |
|----------|--------------------------|--------------------------------------|--|-------------|------------|----------|
| LS-33 | High level line matching | 50, 125, 200, 250, 333, 500/600 ohms | 1.2, 2.5, 5, 7.5 10, 15, 20, 30, 50 125, 200, 250, 333, 500/600 | 10-40,000 | 20 watts | LS-2 |
| LS-34 | High level line matching | 50, 125, 200, 250, 333, 500/600 ohms | 1.2, 2.5, 5, 7.5 10, 15, 20, 30, 50 125, 200, 250, 333, 500/600 | 10-40,000 | 40 watts | LS-3 |

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

| Type No. | Primary will match following typical tubes | Primary Impedance | Secondary Impedance | ± 1 db from | Max. Level | Case No. |
|----------|--|--|---|-------------|------------|----------|
| LS-52 | Push pull 6AQ5, 6VG, 6L6, 5881 | 8,000 ohms | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-54 | Same as above | 8,000 ohms | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-55 | Push pull 2A3's, 300B, 6L6's, 6AS7G, 6080, 350B | 5,000 ohms plate to plate and 3,000 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-57 | Same as above | 5,000 ohms plate to plate and 3,000 ohms plate to plate | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-58 | Push pull parallel as above. | 2,500 ohms plate to plate and 1,500 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 10-50,000 | 40 watts | LS-3 |
| LS-61 | Push pull triode, 6AS7G, 6080, 6L6, 5881, KT-66, 807, 1614 | 10,000 ohms plate to plate and 6,000 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-63 | Same as above | 10,000 ohms plate to plate and 6,000 ohms plate to plate | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 20 watts | LS-2 |
| LS-61L | Self bias push pull 6L6's, 5881, KT-66, 6146 triode, 6159 triode | 9,000 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 7-50,000 | 30 watts | LS-3 |
| LS-6L4 | Push pull 6146, 6159, 6L6's fixed bias or push pull parallel 6L6's self bias | 4,500 ohms plate to plate and 3,800 ohms plate to plate | 500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 12-50,000 | 55 watts | LS-3 |
| LS-35 | EL-34 in AB-feedback | 5,000 ohms CT 43% screen taps | 4, 8, 16 | 7-50,000 | 35 watts | LS-3 |
| LS-65 | 6550's in AB ₁ feedback | 3,300 ohms CT 40% screen taps | 4, 8, 16 | 7-50,000 | 60 watts | LS-3 |

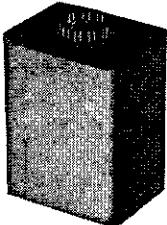
The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.
 * Comparison of hum balanced unit with shielding to normal uncased type.

Q Multiple alloy magnetic shield.



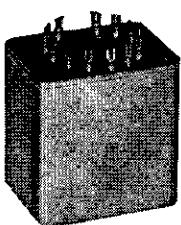
HIPERM ALLOY TRANSFORMERS

The UTC Hiperm alloy audio and power transformers are specifically designed for portable and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hiperm alloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hiperm-alloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Prim'y shown is maximum unbalanced.



TYPE H-1 CASE

| | |
|-------------|------------------|
| Length | 2 3/8" |
| Width | 1 1/16" |
| Height | 3 1/8" |
| Mounting | 1 1/8" x 1 1/16" |
| Screws | 6-32 |
| Cutout | 1 1/8" dia. |
| Unit Weight | 2 lbs. |



TYPE H-2 CASE

| | |
|-------------|-------------|
| Length | 3 3/8" |
| Width | 2 1/16" |
| Height | 3 1/2" |
| Mounting | 2" x 2 1/4" |
| Screws | 8-32 |
| Cutout | 2 1/8" dia. |
| Unit Weight | 5 lbs. |

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

| Type No. | Application | Primary Imp. (ohms) | Secondary Impedance | ± 1 db from | Max. Level dbm | Unbal. DC in Prim'y | Case No. |
|----------|--|--|--|----------------|----------------------|---------------------------|-------------|
| HA-100 | Low impedance mike, pickup, or multiple line to grid | 50, 125/150, 200, 250, 333, 500/600 | 60,000 ohms in two sections | 30-20,000 | +18 | .5 MA | H-1 |
| HA-100X | Same as above but with multiple alloy shield to effect very low hum pickup | | | | +16 | | |
| HA-101 | Low impedance mike, pickup, or multiple line to P.P. grids | 50, 125/150, 200, 250, 333, 500/600 | 120,000 ohms overall, split | 30-20,000 | +18 | .5 MA | H-1 |
| HA-101X | As above but with multiple alloy shield to effect very low hum pickup | | 80,000 ohms overall, split | 30-20,000 | +16 | .5 MA | H-1 |
| HA-103A | Low impedance mike, pickup, or parallel mixer to grid | 2.5, 5.5, 10, 15, 22, 30, 38, 60 | 60,000 ohms in two sections | 30-20,000 | +18 | .5 MA | H-1 |
| HA-108 | Mixing, low impedance mike, pickup, or multiple line | 50, 125/150, 200, 250, 333, 500/600 | 50, 125/150, 200, 250, 333, 500/600 | 20-50,000 | +20 | .5 MA | H-1 |
| HA-108X | Same as above but with multiple alloy shield to effect very low hum pickup | | | | +18 | | |
| HA-130X | Three isolated lines or pads to one or two grids with tri- alloy internal shield | 30, 50, 200, 250 | 60,000 ohms overall, in two sections | 30-20,000 | +18 | .5 MA | H-1 |

INTERSTAGE AUDIO TRANSFORMERS

| Type No. | Application | Primary Imp. | Secondary Impedance | ± 1 db from | Max. Level dbm | Unbal. DC in Prim'y | Case No. |
|----------|---|----------------------------------|--|----------------|----------------------|---------------------------|-------------|
| HA-104 | Single plate to P.P. grids like 2A3, 6L6 (split secondary) | 15,000 ohms (split) | 95,000 ohms 2.5:1 | 30-20,000 | +20 | 0 MA | H-1 |
| HA-105 | Single plate to single grid | 15,000 ohms | 60,000 ohms 2:1 turn ratio | 30-20,000 | +20 | 0 | H-1 |
| HA-106 | Single plate to push pull grids | 15,000 ohms (split secondary) | 135,000 ohms 3:1 ratio overall | 30-20,000 | +20 | 0 | H-1 |
| HA-107 | Push pull plates to push pull grids (split primary and sec- ondary) | 30,000 ohms plate to plate | 80,000 ohms 1.6:1 turn ratio overall | 30-20,000 | +28 | .25 MA | H-2 |
| HA-137 | Push pull plates to push pull grids (split Pri. and Sec.) | 30,000 ohms plate to plate | 68,000 ohms 1.5:1 turn ratio | 30-20,000 | +20 | 0 | H-1 |

PLATE AND CRYSTAL TO LINE TRANSFORMERS

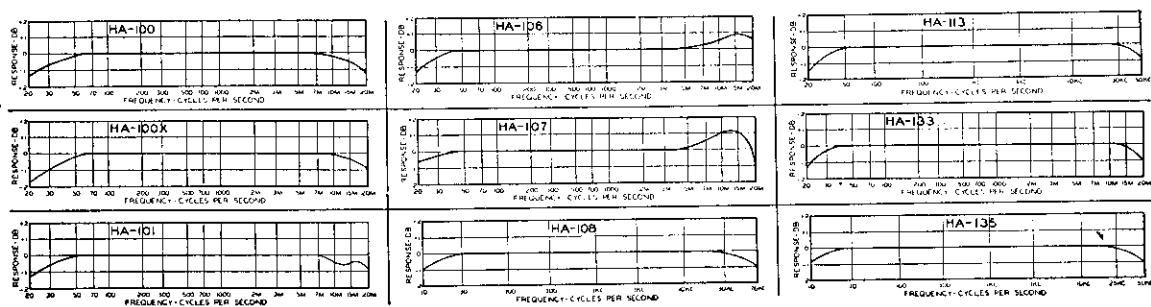
| Type No. | Application | Primary Imp. | Secondary Imp. ohms | ± 1 db from | Max. Level dbm | Unbal. DC in Prim'y | Case No. |
|----------|---|-------------------------------|--|--|----------------------|---------------------------|-------------|
| HA-111 | Crystal microphone or pickup, to multiple line | 100,000 ohms (split) | 50, 125/150, 200, 250, 333, 500/600 | 30-20,000 meas- ured with re- sistive source | +18 | 0 | H-1 |
| HA-113 | Single plate to multiple line | 15,000 ohms (split) | 50, 125/150, 200, 250, 333, 500/600 | 30-40,000 | +21 | 0 MA | H-1 |
| HA-133 | Single plate to multiple line (D.C. in Pri.) | 15,000 ohms (split) | 50, 125/150, 200, 250, 333, 500/600 | 30-40,000 | +22 | 8 MA | H-1 |
| HA-114 | Push pull low level plates to multiple line | 30,000 ohms plate to plate | 50, 125/150, 200, 250, 333, 500/600 | 30-40,000 | +23 | 1 MA | H-1 |

OUTPUT TRANSFORMERS

| | | | | | | |
|--------|--|----------------------------------|--|-----------|----------|-----|
| HA-134 | Push pull, 6L6, or 2A3's to line | 5000/9400 ohms plate to plate | 50, 125/150, 200, 250, 333, 500/600 | 10-50,000 | 15 watts | H-2 |
| HA-135 | Push pull 2A3's, etc. to voice coil | 3000/5000 ohms plate to plate | 30, 20, 15, 10, 7.5, 5, 2.5, 1.2 | 10-50,000 | 18 watts | H-2 |
| HA-136 | 5881's (KT-66's) in AB- feed back | 6,600 ohms CT 43% screen taps | 4, 8, 16 | 10-50,000 | 20 watts | H-2 |

POWER TRANSFORMERS AND CHOKES

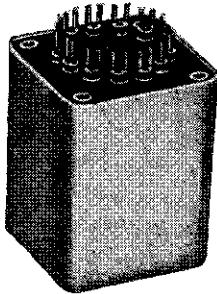
| Type No. | Application | Primary Voltage 50/60 cycles | High Voltage | Filament Windings | Case No. |
|----------|--|----------------------------------|--------------------|-----------------------------------|----------|
| HP-122 | Pre-amp., power supply using 6X4, 6X5GT rectifier | 115 | 220-0-220 15 MA | 6.3 V.C.T.-.6A 6.3 V.C.T.-1.2A | H-1 |
| HP-123 | Pre-amp. or tuner power supply using 6X4, 6X5GT rectifier | 115 | 275-0-275 35 MA | 6.3 V.C.T.-.6A 6.3 V.C.T.-2A | H-2 |
| HC-115 | Parallel feed and filter choke | Series-400 hy Parallel-100 hy | 2.5 MA 5 MA | 6000 ohms 1500 ohms | H-1 |
| HC-116 | Parallel feed and filter choke | Series-600 hy Parallel-150 hy | 8 MA 16 MA | 3400 ohms 850 ohms | H-2 |
| HC-117 | Parallel feed and filter choke | Series-200 hy Parallel-40 hy | 15 MA 35 MA | 3200 ohms 800 ohms | H-1 |



ULTRA COMPACT AUDIO UNITS

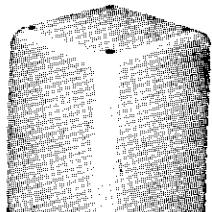


The UTC Ultra compact audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles. All units except those carrying DC in Primary employ a true hum balancing-coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast case provides for top or bottom mounting. Maximum operating level $+7$ DB.



TYPE A CASE

| | |
|-------------------|----------|
| Length | 1½" |
| Width | 1½" |
| Height | 2" |
| Mounting | 1½" sq. |
| Screws | 4-40 |
| Cutout | 1¾" dia. |
| Unit Weight | ½ lb. |



A-33 SHIELD

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

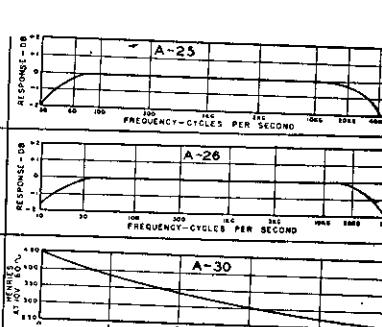
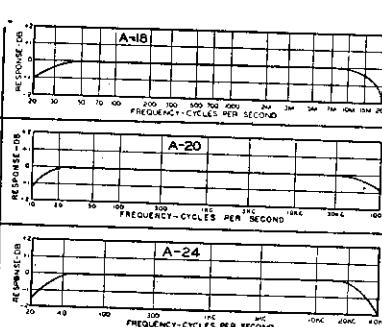
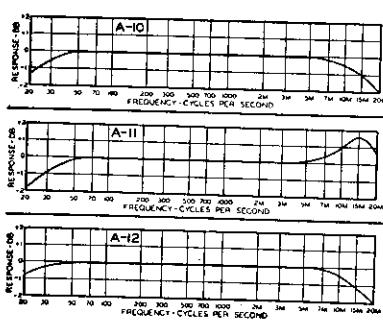
| Type No. | Application | Primary Impedance | Secondary Impedance | ± 2 db from |
|----------|---|---|---|--|
| A-10 | Low impedance mike, pickup, or multiple line to grid | 50, 125/150, 200/250, 333, 500/600 ohms | 50,000 ohms | 20-20,000 |
| A-11 | Low impedance mike, pickup, or line to 1 or 2 grids | 50, 200, 500 | 50,000 ohms | 50-20,000 multiple alloy shield |
| A-12 | Low impedance mike, pickup, or multiple line to push pull grids | 50, 125/150, 200/250, 333, 500/600 ohms | 80,000 ohms overall, in two sections | 20-20,000 |
| A-14 | Dynamic microphone to one or two grids | 30 ohms | 50,000 ohms overall, in two sections | 20-20,000 |
| A-20 | Mixing, low impedance mike, pickup, or multiple line to multiple line | 50, 125/150, 200/250, 333, 500/600 ohms | 50, 125/150, 200/250, 333, 500/600 ohms | 10-50,000 |
| A-21 | Mixing, low impedance mike, pickup, or line to line | 50, 200/250, 500/600 | 50, 200/250, 500/600 | 30-30,000 multiple alloy shield for extremely low hum pickup |

INTERSTAGE AUDIO TRANSFORMERS

| Type No. | Application | Primary Impedance | Secondary Impedance | ± 2 db from |
|----------|--|----------------------|---|-----------------|
| A-15 | Transistor interstage Max. level $+30$ dbm | 10,000/2,500 (split) | 2,000/500 (split) | 40-10,000 |
| A-16 | Single plate to single grid | 15,000 ohms | 60,000 ohms, 2:1 turn ratio | 20-20,000 |
| A-17 | Single plate to single grid 8 MA unbalanced D.C. | As above | As above | 40-20,000 |
| A-18 | Single plate to two grids. Split primary, can also be used for P.P. plates | 15,000 ohms (split) | 80,000 ohms overall, 2:3:1 turn ratio overall | 20-20,000 |
| A-19 | Single plate to two grids 8 MA unbalanced D.C. | 15,000 ohms | 80,000 ohms overall, 2:3:1 turn ratio overall | 40-20,000 |

PLATE AND CRYSTAL TO LINE TRANSFORMERS

| Type | Application | Primary Impedance | Secondary Impedance | ± 2 db from |
|------|---|----------------------------|---|--|
| A-22 | Transistor to line Max. level $+30$ dbm | 500 CT | 500/125 (split) | 40-10,000 |
| A-23 | Transistor to voice coil Max. level $+30$ dbm | 500 CT | 16/4 (split) | 40-10,000 |
| A-24 | Single plate to multiple line | 15,000 ohms (split) | 50, 125/150, 200/250, 333, 500/600 ohms | 20-40,000 |
| A-25 | Single plate to multiple line 8 MA unbalanced D.C. | 15,000 ohms | 50, 125/150, 200/250, 333, 500/600 ohms | 40-20,000 |
| A-26 | Push pull low level plates to multiple line | 30,000 ohms plate to plate | 50, 125/150, 200/250, 333, 500/600 ohms | 20-40,000 |
| A-27 | Crystal microphone to multiple line | 100,000 ohms (split) | 50, 125/150, 200/250, 333, 500/600 ohms | 30-20,000 measured with non-inductive source |
| A-30 | Audio choke, 250 henrys @ 5 MA 6000 ohms D.C., 65 henrys @ 10 MA 1500 ohms D.C. 450 henrys @ 0 MA | | | |
| A-32 | Filter choke 60 henrys @ 15 MA 2000 ohms D.C., 15 henrys @ 30 MA 500 ohms D.C. | | | |
| A-33 | Hipermalloy shield, slip fit over A case, provides approximately 20 db shielding . . . | | | 1½" x 1½" x 2½" |



REPLACEMENT TYPE COMPONENTS



STEP DOWN AUTO-TRANSFORMERS

220/240 Volt to 110/120 Volts, 50/60 Cycles.

All units have 6 foot cord and female receptacle, except R-64.

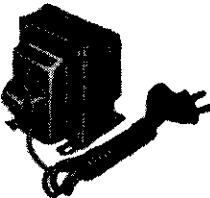
| Type Rating No. | Watts | L | W | H | Mfg. Dim. | Wgt. Lbs. |
|-----------------|-------|--------|-------|-------|----------------|-----------|
| R-41 | 85 | 3 | 2 1/2 | 3 1/8 | 2 x 1 1/2 | 4 |
| R-42 | 125 | 3 1/8 | 3 | 3 1/2 | 2 1/4 x 2 1/16 | 5 |
| R-43 | 175 | 3 1/8 | 3 1/4 | 3 1/8 | 2 1/2 x 2 1/4 | 5 1/2 |
| R-44 | 250 | 4 1/8 | 3 1/4 | 3 1/8 | 2 1/4 x 2 7/8 | 6 1/2 |
| R-45 | 500 | 4 1/8 | 3 1/8 | 4 1/8 | 3 x 3 1/4 | 12 |
| R-46 | 1200 | 6 1/8 | 3 1/8 | 4 1/8 | 3 x 5 1/2 | 18 |
| R-47 | 2500 | 10 1/2 | 4 1/4 | 6 1/4 | 3 7/8 x 9 7/8 | 30 |



EXPORT VOLTAGE ADAPTER

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

| Type Rating No. | Watts | L | W | H | Mfg. Dim. | Wgt. Lbs. |
|-----------------|-------|-------|-------|-------|---------------|-----------|
| R-47 | 85 | 4 1/8 | 3 | 3 1/2 | 2 1/4 x 2 1/4 | 4 1/2 |
| R-48 | 150 | 4 1/8 | 3 1/4 | 4 | 2 1/2 x 2 1/4 | 5 1/2 |



TV VOLTAGE REGULATOR

Complete with cord, plug, and special locking switch. Permits operation of 115 volt 50/60 cycle TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125 V.

| Type Rating No. | Watts | L | W | H | Mfg. Dim. | Wgt. Lbs. |
|-----------------|-------|---|-------|---|---------------|-----------|
| R-49 | 350 | 5 | 3 1/4 | 4 | 2 1/2 x 2 3/4 | 5 |

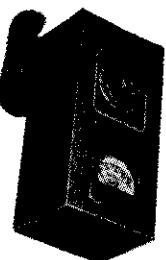
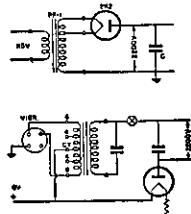
PHOTO FLASH TRANSFORMERS

Can be used for either standard (Anglo type) or trigger (Sylvania type) multiple flash bulbs. Circuit details included with transformer.

PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3" case 2 3/8 x 2 3/4 (3 1/8 including flanges) x 2 1/2 inches high. Weight 2 lbs.

PF-2 For portable service. Primary tapped for 4 volt or 6 volt battery (full wave vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 Mfd. Compound sealed in G-3" case. Weight 2 lbs.

PF-3 Trigger Transformer 15 KV peak. 7/8 O.D. x 3" long. Weight 2 Oz.



VARITRAN VOLTAGE ADJUSTERS

Input 115 volts 50/60 cycles. Output continually adjustable from 0-130 Volts through roller contact on exposed autotransformer winding. Regulation and efficiency are excellent, no wave form distortion. Output voltage is independent of load. Complete with line cord, switch, and receptacle . . . for loads up to 570 Watts . . . 5 A.

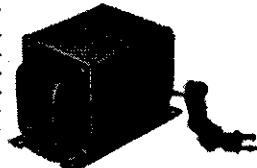
| Type | L | W | H | Wt. Lbs. |
|-------------------|-------|-------|-------|----------|
| V-1-M with meter | 4 7/8 | 9 7/8 | 3 3/8 | 14 |
| V-1 without meter | 4 7/8 | 8 | 3 3/8 | 12 |

ISOLATION TRANSFORMERS

Ideal for isolating line noise, AC-DC sets, etc. Excellent electrostatic shielding. 1500 volt breakdown test. Six foot cord and female receptacle, except R-77.

Primary 110-120 volts, 50/60 cycles—Secondary 110-120 volts
Except R-97 220 volt Primary—120 volt Sec.

| Type Rating No. | Watts | L | W | H | Mfg. Dim. | Wgt. Lbs. |
|-----------------|-------|-------|-------|-------|---------------|-----------|
| R-72 | 40 | 2 3/4 | 2 1/2 | 3 1/8 | 2 x 1 1/8 | 4 |
| R-73 | 100 | 3 1/2 | 3 1/4 | 3 1/8 | 2 1/2 x 2 3/8 | 6 |
| R-74 | 250 | 4 1/8 | 3 1/4 | 4 1/8 | 3 x 3 1/2 | 12 |
| R-75 | 600 | 6 1/8 | 3 1/4 | 4 1/8 | 3 x 6 | 20 |
| R-76 | 1200 | 8 1/8 | 4 1/2 | 5 1/8 | 3 5/8 x 6 1/8 | 30 |
| R-77 | 2500 | 12 | 7 | 9 | 6 x 12 | 70 |
| R-87 | 250 | 4 1/8 | 3 1/8 | 4 1/8 | 3 x 3 1/2 | 12 |



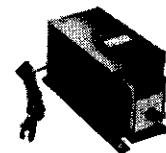
LINE VOLTAGE ADJUSTERS WITH METER

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.

These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly.

The nine tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output model.

All units are designed for 50/60 cycle service and come complete with 6 foot input cord and plug and outlet receptacle.

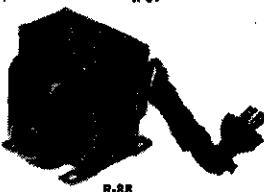


| Type No. | Primary Voltages | Sec. Rating Volts | Watts | L | W | H | Wt. Lbs. |
|----------|---|-------------------|-------|--------|---|-------|----------|
| R-78 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 150 | 7 | 4 | 4 3/4 | 6 |
| R-79 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 300 | 7 | 4 | 4 3/4 | 9 |
| R-80 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 600 | 10 1/4 | 4 | 4 3/4 | 13 |
| R-81 | 60, 70, 80, 90, 100, 110, 120, 130, 140 | 115 | 1200 | 10 1/4 | 4 | 4 3/4 | 21 |
| R-86 | 160, 170, 180, 190, 200, 210, 220, 230, 240 | 230 | 1200 | 10 1/4 | 4 | 4 3/4 | 21 |

VOLTAGE BOOSTERS

The constantly increasing appliance load in home and office presents a serious low line voltage problem to which the UTC voltage booster is a perfect answer. These autotransformers are designed to operate from a 95 to 110 V. 50/60 cycle line. They boost the voltage 10%. The two ratings shown are ideal for TV sets and air conditioners. Complete with line cord and receptacle.

| Type No. | Rating Amps. | Watts | L | W | H | Mfg. Dim. | Wgt. Lbs. |
|----------|--------------|-------|-------|-------|-------|-----------|-----------|
| R-87 | 3 | 350 | 3 1/8 | 2 | 2 3/4 | 2 7/8 | 2 |
| R-88 | 18 | 2000 | 3 1/8 | 4 1/8 | 4 1/8 | 3 x 3 | 12 |



R-87

R-88

SIGNALLING AND CONTROL TRANSFORMERS

Primary 110-120 volts, 50/60 cycles—Secondary 4/8/12/16/20/24 volts

High power transformers suitable for operating relays, sirens, horns, gongs, etc. from 115 V. 50/60 cycle line. These units have four secondary terminals providing 4, 8, 12, 16, 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

| Type No. | Rating Watts | L | W | H | Mfg. Dim. | Wgt. Lbs. |
|----------|--------------|-------|---------|---------|---------------|-----------|
| SC-3 | 50 | 3 | x 3 1/2 | x 3 1/4 | 1 1/8 x 2 1/4 | 3 |
| SC-4 | 100 | 3 1/4 | x 4 | x 4 | 2 1/8 x 2 1/2 | 5 |
| SC-5 | 250 | 4 | x 5 | x 4 1/4 | 3 1/4 x 3 | 10 |



