

FAIRCHILD INTEGRA SERIES
MODEL 692 DAT
DOUBLE AUTOMATIC ATTENUATOR CARD

IB692 DAT/1269

INSTRUCTION MANUAL

FAIRCHILD INTEGRA SERIES

MODEL 692 DAT

DOUBLE AUTOMATIC ATTENUATOR CARD

GENERAL DESCRIPTION

The Fairchild Model 692DAT card contains two signal activated gate, auto-ten circuits designed to supplement Integra II, component series. Two completely independent auto-ten sections, each containing 2 CDS cells located next to individual light sources offers design flexibility and compactness not available until now.

Unlike any other gated amplifier circuits, the auto-ten performs soft switching by using smooth and fast resistance change of CDS cells, which are actuated by fast incandescent plug-in bulbs. The new circuit offers very well defined threshold point with resolution of 1 db. The lowest threshold setting provides action from signals as low as -40 dbm. Two separate threshold controls are mounted on a board with provision to use external controls. Release time for the gating action can be either fixed or variable. Proper strapping of the connector terminals offers 3 release time constance ranging from 0.3 seconds to 7 seconds. The use of external rheostat will enable the user to vary the release time continuously over the same range.

Uses of the 692DAT board include gating of audio lines to eliminate unwanted low level signals (noise) or changing the gain of the lines, either by signals transmitted to same or from other sources. CDS cells activated by the light source vary their resistance over the range from 50 ohms when fully illuminated, to tenths of megohms when in complete darkness. Any place in the circuit where a variable resistor of this type would perform the function, this resistor can be substituted by the 692DAT, which will perform the same function automatically. Cells can be by-passed using fixed resistors restricting the range over which the resistance will change. This will allow control of the attenuation of the circuit anywhere from 0 db and higher.

CIRCUIT DESCRIPTION

The circuit of the 692DAT consists of two sets of amplifiers-drivers designed with silicon transistors to drive the light source from audio signals. The light of the bulb affects the cadmium sulfide cells (CDS) which are in a completely separate circuit.

The first two stages of the amplifier circuit are designed to amplify incoming audio signals. This circuit consists of transistors Q-1 and Q-2. The output of the second stage feeds amplified signal to Q-3 which is biased to off condition. Any incoming signal is rectified by this stage and converted into pulsating DC. These pulses are then fed into bootstrap circuit consisting of transistors Q-4 and Q-5. The Q-5 in its emitter circuit has plug-in bulb #GE-377, which is located in the light tight compartment or housing. Base of the Q-5 is connected through diode D-1 to the release time circuit. Change in the release time is effected by varying resistor R-10. The threshold control is R2, which selects the level at which the circuit will trigger in order to make this adjustment externally or should be left in open position and remote potentiometer should be used to adjust the threshold. Resistors R-12 and R-13 allow operation of the circuit from 6.3 volts power supply or 18 to 24 volts. Zener diode D-2 maintains voltage regulation.

SPECIFICATIONS

| | |
|--|--|
| Minimum level for triggering: | -40 db |
| Maximum level into CDS cells: | 200 mW or (+20 dbm audio) |
| Frequency response of sensing circuit: | 20 Hz to 20 Khz ± 1 db |
| Frequency response of CDS cells: | dc to 100 khz flat |
| Distortion: | Immeasurable |
| Response time: | Min. 3 m secs |
| Release time: | Variable from .03 seconds to 7 seconds |
| Power requirements: | 6.3 to 24 volts DC 70 ma per section |
| Size: | 3-5/16 X 5-1/2" |
| Bulbs: | GE-377 (2) |
| Input Impedance: | 10K bridging |

MOUNTING

The 692DAT card can be rack mounted using Fairchild 692 RM capable of accepting 16 Integra II cards. If single card is to be used, single card holder Model 692SCH in conjunction with 662RM will mount the card in the rack using 5-1/4 inches of vertical space and 1-1/2 width.

The 692DAT card can be incorporated into any system which has power supply voltage from 6.3 to 24 volts. Any Fairchild power supply can power the card.

Included also are brochures and instruction booklet of Fairchild 661TL unit describing the different possible uses of the Auto-Ten with circuits.

INCLUSIONS

Schematic B96611
Dimensional drawing A96297
Warranty Card

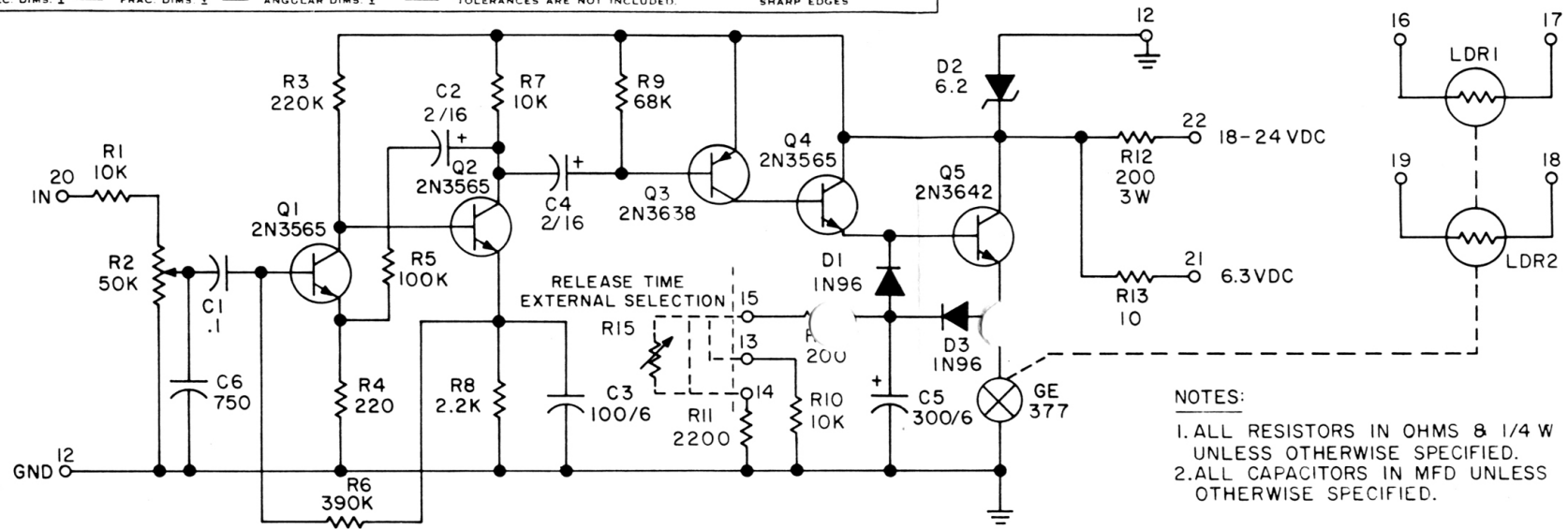
DO NOT SCALE DWG. WORK TO FIGURES.
 TOLERANCES UNLESS OTHERWISE SPECIFIED
 DEC. DIMS ± — FRAC. DIMS ± — ANGULAR DIMS ± — TOLERANCES ARE NOT INCLUDED.

DRILL PUNCH COMMERCIAL STOCK
 SIZES AND MANUFACTURERS'
 TOLERANCES ARE NOT INCLUDED.

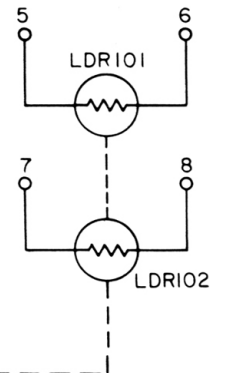
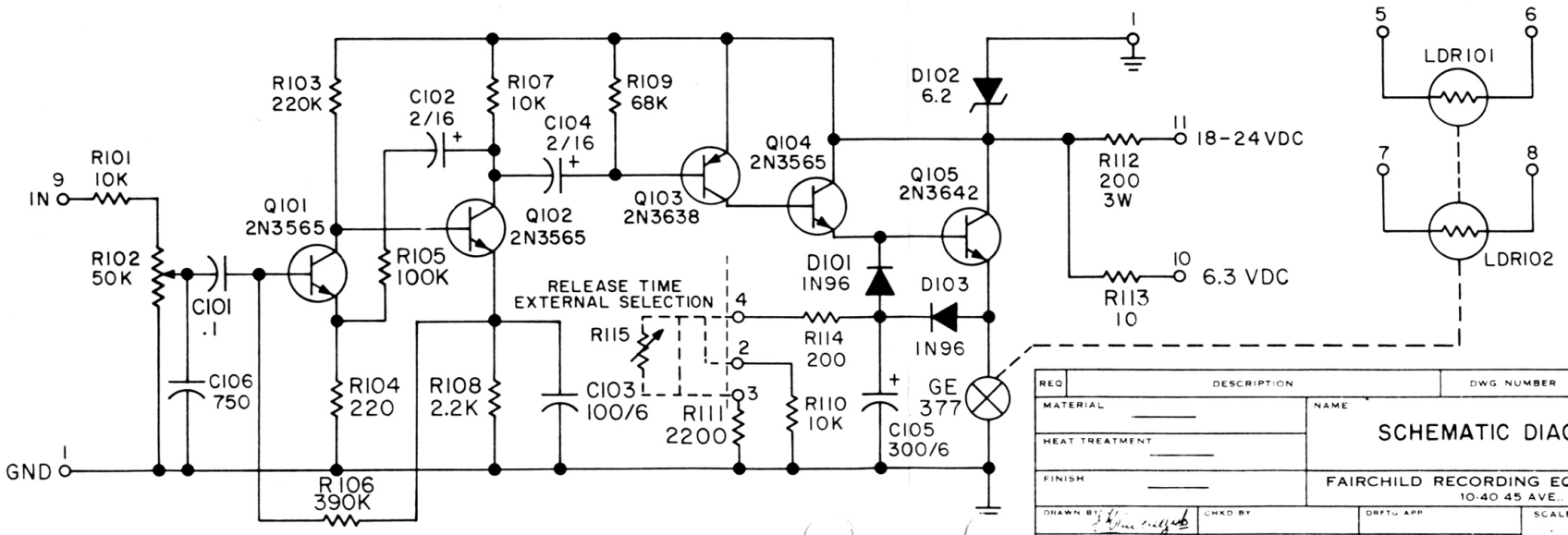
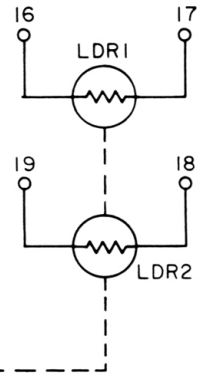
REMOVE ALL
 BURRS AND
 SHARP EDGES

NUMBER
B-96611

ISSUE: 1-2-11-69
 2. 4/14/69
 3. ADDED AS PER
 E.C.O. NO. 7.
 9/9/69 S.K.
 4.C4 & C104
 WERE 2/50
 12/9/69 S.K.



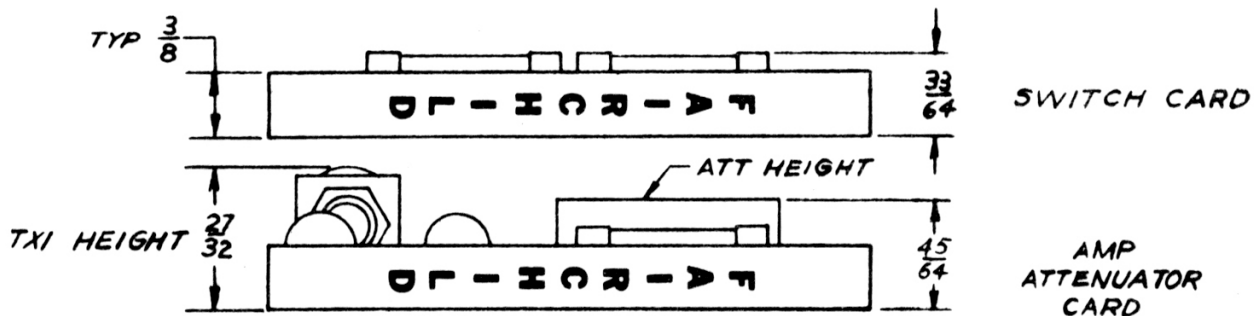
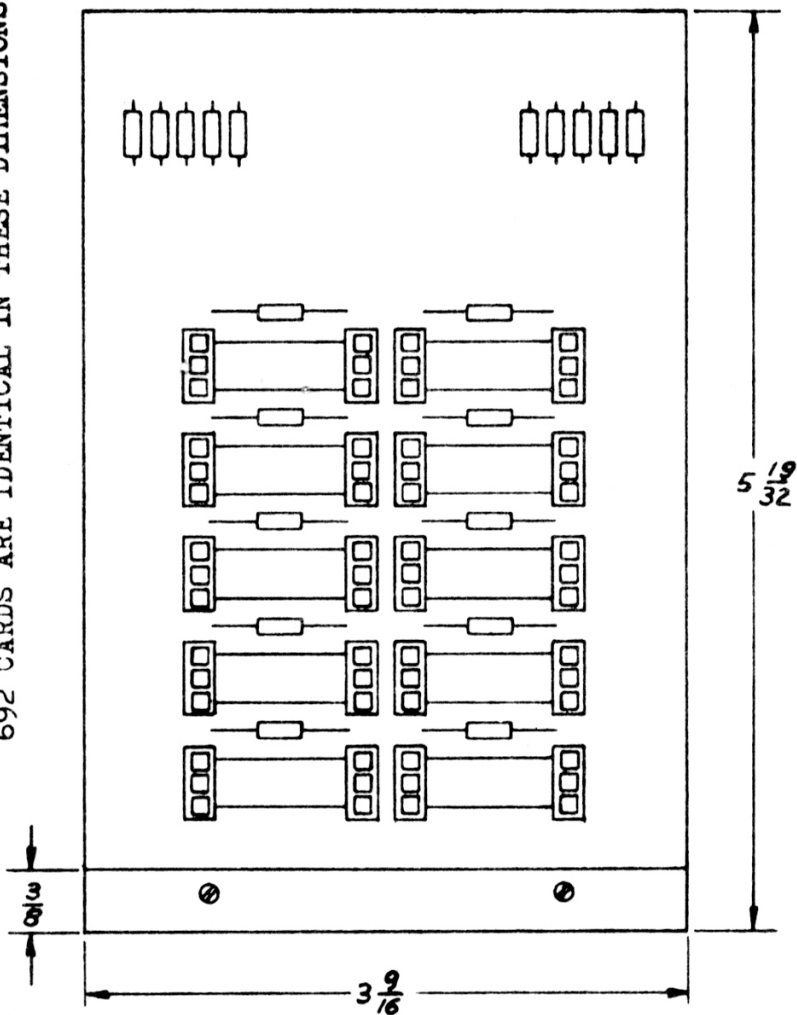
NOTES:
 1. ALL RESISTORS IN OHMS & 1/4 W
 UNLESS OTHERWISE SPECIFIED.
 2. ALL CAPACITORS IN MFD UNLESS
 OTHERWISE SPECIFIED.



| REQ | DESCRIPTION | DWG NUMBER | ITEM | NEXT ASSEMBLY |
|-----------------------------|--------------|--|-------|----------------|
| MATERIAL | NAME | SCHEMATIC DIAGRAM - 692 DAT | | |
| HEAT TREATMENT | | | | |
| FINISH | | FAIRCHILD RECORDING EQUIPMENT CORPORATION 10-40 45 AVE. L I C. I. N. Y. | | |
| DRAWN BY <i>[Signature]</i> | CHKD BY | DRFTG. APP | SCALE | NUMBER |
| ENL. | PROJECT ENG. | ENG. APP. | | B-96611 |

INTEGRA II PC BOARD MOUNTING DIMENSIONS

AUDIO SWITCHER CARD USED AS AN
EXAMPLE FOR LENGTH & WIDTH. ALL
692 CARDS ARE IDENTICAL IN THESE DIMENSIONS.



A-96297