

435-666-05

VHF/UHF "COLORCASTER PLUS"™

MODEL TA-84X

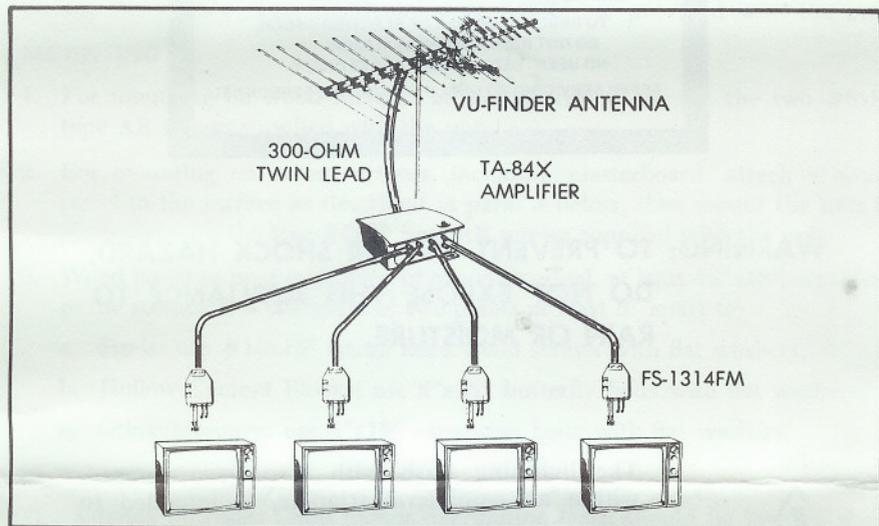


Fig. 1—TA-84X Four-Set System

SPECIFICATIONS

PASSBANDS, in MHz	54-216 and 470-890
NUMBER OF OUTPUTS	4
GAIN, at any output with all others terminated, in dB (average)	7.5 at Lo VHF
	5.5 at Hi VHF
	3.5 at UHF
FLATNESS, in dB	±1 at VHF
	±2 at UHF
NOISE FIGURE, in dB	5.2 at Lo, 5.8 at Hi VHF
	6 for Chs. 14-47
	8 for Chs. 48-72
	10 for Chs. 73-83
OUTPUT CAPABILITY, per channel, each output, in μ V	114,000 for 7 chs. VHF
	27,000 for 5 chs. UHF
MAX. RECOMMENDED INPUT, per channel, in μ V	60,000 for 7 chs. VHF
	19,000 for 5 chs. UHF
DISTORTION: Cross-Mod. at max. input	0.5% (-46 dB)
FM BAND ATTENUATION (1)	12 dB below TV band gain
ISOLATION, between one and any other output, in dB	15 across passbands
TERMINAL IMPEDANCE, at all terminals, in Ω	300
POWER REQUIREMENTS	117 V, 60 Hz, 65 mA, 8.2 W



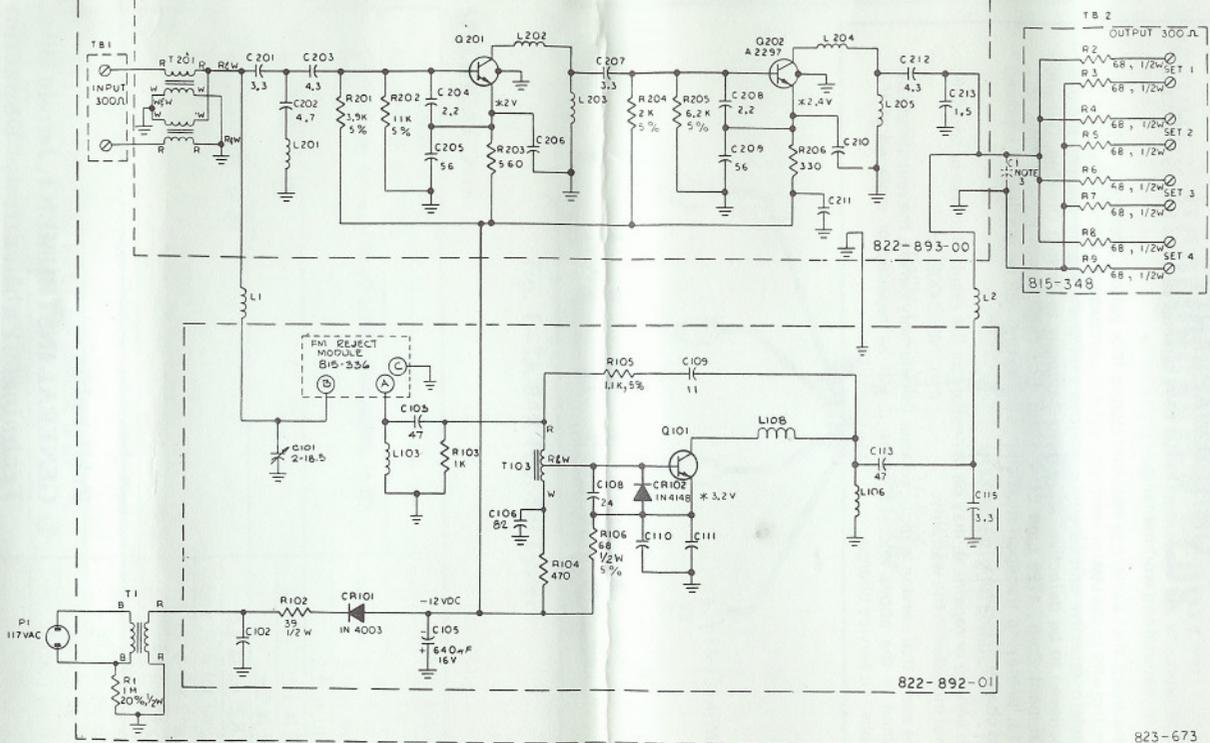
**WARNING: TO PREVENT FIRE OR SHOCK HAZARD,
DO NOT EXPOSE THIS APPLIANCE TO
RAIN OR MOISTURE.**



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



NOTES:
 1. UNLESS OTHERWISE SPECIFIED:
 A-ALL RESISTANCES ARE IN OHMS,
 10%, 1/4W.
 B-ALL CAPACITANCES ARE IN pF.
 C-ALL UNMARKED CAPACITANCES TO
 BE .02μF.
 2-NUMBERS MARKED WITH AN ASTERISK (*)
 ARE VOLTAGES MEASURED WITH REF-
 ERENCE TO THE NEGATIVE BUS.
 OTHER VOLTAGES ARE REFERRED TO
 GROUND, ALL MEASURED WITH A 20KΩ/
 VOLT METER.
 3 C1 REPRESENTS CAPACITANCE OF
 TWISTED OUTPUT LEADS.

TRANSISTOR QUIESCENT OPERATING POINTS

DESIGNATION	Q101	Q201	Q202
V _{CE} VOLTS	a	10	9.6
I _C mA	4.7	3.6	7
P _A mW	423	36	67

BASING
 BOTTOM VIEW

D863-673 REV-E

**SCHEMATIC DIAGRAM
 ALL CHANNEL AMPLIFIER
 MODEL TA-84X**

REPLACEMENT PARTS LIST

Schematic Designations	Jerrold Part No.
CAPACITORS	
C101	128-570
C115, 201, 207	124-113
C102, 110, 111, 206, 210, 211	S124-078
C103, 113	124-195
C105	127-168
C106	124-172
C108	124-104
C109	124-048
C202	124-061
C203, 212	124-087
C204, 208	124-064
C205, 209	124-300
C213	124-157
DIODES	
CR101	137-788
CR102	137-824
RESISTORS	
R1	112-743-95
R2, 3, 4, 5, 6, 7, 8, 9	112-215-95
R102	112-185-95

Schematic Designations	Jerrold Part No.
RESISTORS (Continued)	
R103	112-970-95
R104	112-922-95
R105	112-927-95
R106	112-212-95
R201	112-979-95
R202	112-988-95
R203	112-945-95
R204	112-930-95
R205	112-981-95
R206	111-009-95
TRANSFORMERS	
T1	B141-233
T103	C144-186-01
T201	C144-366-01
TRANSISTORS	
Q101	S130-265-01
Q201	130-631
Q202	130-220

DESCRIPTION

Model TA-84X is a 300 Ω , four-output, solid-state amplifier for indoor use in a small MATV distribution system. The unit has a factory-tuned filter which passes usable FM signals but attenuates strong ones from local FM stations sufficiently to prevent interference with the TV signals. A built-in d.c. supply permits operation directly from a 117 VAC wall outlet. Antenna terminal impedance is 300 Ω .

Two keyhole slotted brackets on the housing chassis permit mounting the unit on any flat surface. Two wood mounting screws are provided with the unit.

MOUNTING

1. For mounting on wood surfaces at least $\frac{1}{2}$ inch thick, use the two #6x $\frac{1}{2}$ " type AB screws supplied with the unit.
2. For mounting on other surfaces, including plasterboard, attach a wood panel to the surface as described in para. 3 below, then mount the unit to the panel with the two #6x $\frac{1}{2}$ " type AB screws supplied with the unit.
3. Wood panel to be $\frac{1}{2}$ inch thick plywood or equal, at least 4 $\frac{1}{2}$ "x18", attached to the surface at a minimum of two points at least 8" apart to:
 - a. Studs: use #10x1 $\frac{1}{2}$ " round head wood screws with flat washers;
 - b. Hollow Cement Blocks: use $\frac{1}{4}$ "x3 $\frac{1}{2}$ " butterfly bolts with flat washers;
 - c. Other Masonry: use $\frac{1}{4}$ "x1 $\frac{1}{2}$ " expansion bolts with flat washers.

RF CONNECTIONS

The antenna down-lead and indoor distribution leads should be kept as short as practical. They must be routed at least 7 inches away from any metal surfaces and from electrical devices such as motors, heaters, etc.

Connect the antenna down-lead to the amplifier input by cutting the lead end square and securing it under the screw and crown washer terminals. Where foam type twin-lead is used, connect it at an angle as illustrated to insure proper electrical contact.

Similarly connect the amplifier outputs with twin-leads through appropriate matching transformers or splitters to the TV sets as illustrated.

SERVICING

For the benefit of qualified service personnel, a schematic circuit diagram and a replacement parts list are given here.

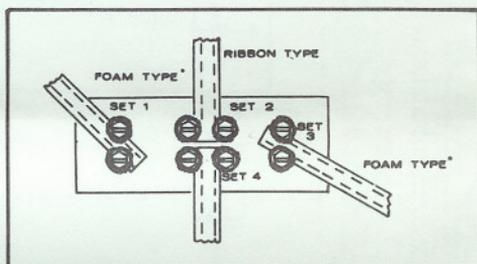


Fig. 2—Connecting the Twin-Leads

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT SAFEGUARDS

1. **Read Instructions** — All the safety and operating instructions should be read before the appliance is operated.

2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.

3. **Heed Warnings** — All warnings on the appliance and in the operating instructions should be adhered to.

4. **Follow Instructions** — All operating and use instructions should be followed.

5. **Cleaning** — Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. **Attachments** — Do not use attachments not recommended as they may cause hazards.

7. **Water and Moisture** — Do not use this equipment near water — for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

8. **Accessories** — Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with equipment. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. **Ventilation** — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the equipment and to protect it from overheating. The openings should never be blocked by placing the video

product on a bed, sofa, rug, or other similar surface. Equipment should never be placed near or over a radiator or heat register, or in a built-in installation such as a bookcase or rack unless proper ventilation is provided.

10. **Power Sources** — This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your local power company. For equipment intended to operate from battery power, or other sources, refer to the operating instructions.

11. **Ground or Polarization** — This equipment may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

Alternate Warnings — This equipment may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. **Power-Cord Protection** — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

**GENERAL
INSTRUMENT**

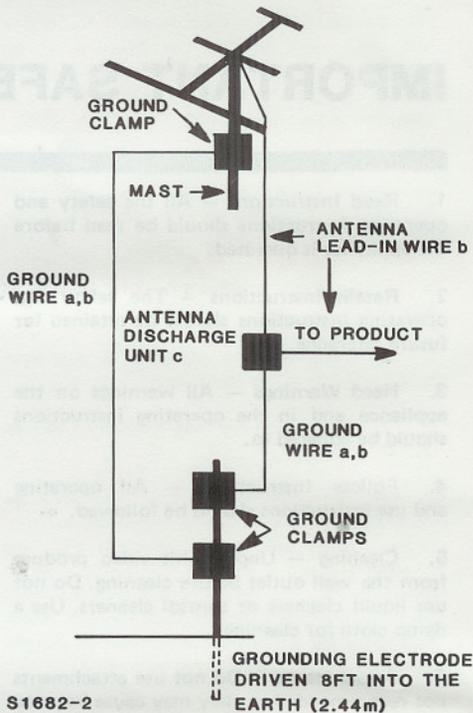
13. Outdoor Antenna Grounding — If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1981, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure 1.

14. Lightning — For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.

15. Power Lines — An outside antenna system should not be located in the vicinity of overhead power lines or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

16. Overloading — Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

17. Object and Liquid Entry — Never push objects of any kind into this equipment through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.



a

Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) copper-clad steel or bronze wire, or larger, as ground wire.

b

Secure antenna lead-in wire and ground wires to house with stand-off insulators spaced from 4 ft (1.22 m) to 6 ft (1.83 m) apart.

c

Mount antenna discharge unit as close as possible to where lead-in enters house.

FIGURE 1.

18. Servicing — Do not attempt to service this equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

19. Damage Requiring Service — Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power-supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the equipment.
- c. If the equipment has been exposed to rain or water.
- d. If the equipment does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.

e. If the equipment has been dropped or the cabinet has been damaged.

f. When the equipment exhibits a distinct change in performance, indicating a need for service.

20. Replacement Parts — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

21. Safety Check — Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

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