



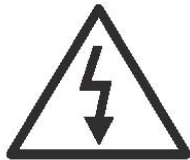
## INSTALLATION MANUAL

### CTA-30RK-1000 Rack Mount Distribution Amplifier

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#### ***IMPORTANT INFORMATION***

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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.

**WARNING :** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT OPEN THE CABINET, REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

## PACKAGE CONTENTS

This package contains:

One CTA-30RK-1000 Rack Mount Distribution Amplifier  
One CTA-30RK-1000 Installation Manual

## PRODUCT DESCRIPTION

The CTA-30RK-1000 is a rack mount push-pull amplifier producing signals with extremely low distortion and harmonic content. The unit is capable of 135-channel operation from 54MHz to 1000 MHz. The CTA-30RK-1000 may be used in conjunction with headend combiners such as the Cabletronix CTHC-12G (12-port) and CTHC-24G (24-port). Key features include: adjustable slope control, adjustable gain control, output test port, and double shielded RFI enclosures.

## SPECIFICATIONS

### CTA-30RK-1000

Rack Mount Distribution Amplifier Specifications (Typical)

<b>RF</b>	
1. Bandwidth	54-1000 MHz
2. Gain	30 dB
3. Gain Adjust Range	0 – 12 dB variable
4. Slope	0 – 9 dB variable
5. Flatness	+/- 0.5dB per channel, +/-1.5dB any 100MHz band
6. Noise Figure	7.5 dB
7. Maximum Output	45 dB (54 channels, -57 dB cross modulation)
8. Cross modulation	-62 dB (129 channels @ 13 dBmV input level)
9. Second Order Beats	-60 dB (129 channels @ 13 dBmV input level)
10. Composite Triple Beat	-58 dB (129 channels @ 12 dBmV input level)
11. Return Loss In	>20 dB to 800 MHz
12. Return Loss Out	>12 dB to 800 – 1000 MHz
13. Test Port	-30 dB
<b>GENERAL</b>	
1.Power Requirements	115 VAC, 60Hz, 4W
2.Operating Temperature	32 °F ~ 122 °F
3.Connectors	All "F" Type
<b>MECHANICAL</b>	
1.Dimensions	19" (W) x 1.75" (H) x 3" (D)
2.Weight	3.8 lbs

## – INSTALLATION AND OPERATION

### NOTE TO SYSTEM INSTALLER

System installer must adhere to Article 820-40 of the NEC that provides guidelines for proper grounding and specifies that the cable ground shall be connected to *the grounding system of the building*, as close to the point of cable entry as practical.

#### 1. UNPACKING and HANDLING

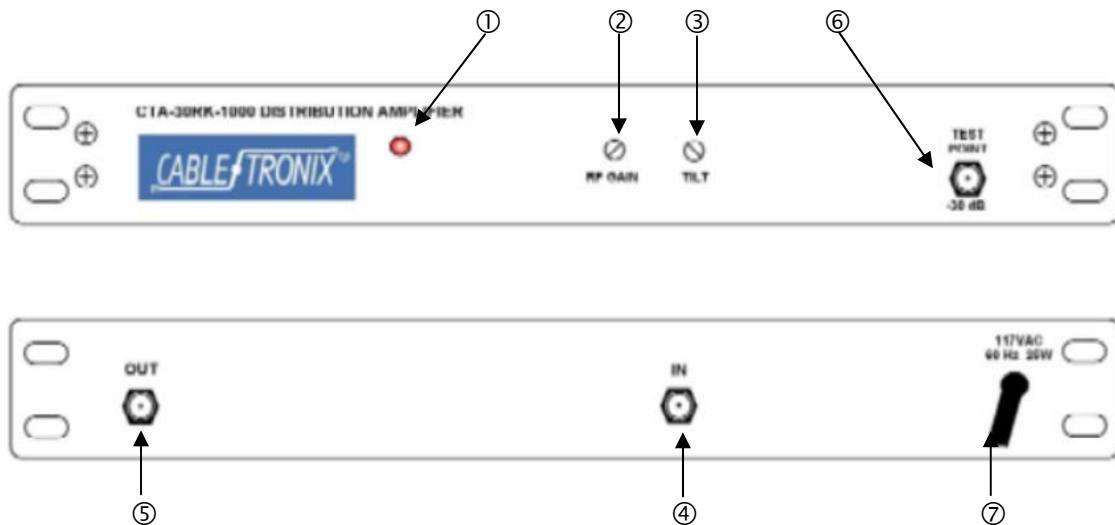
Each unit is shipped with all equipment assembled, and factory tested.

Ensure that all accessories are removed from the container before discarding packing material

#### 2. MECHANICAL INSPECTION

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no connectors are broken, damaged, or loose. If equipment appears to be damaged or defective please contact us at 1-610-429-1511 for assistance.

#### 3. PRODUCT DIAGRAM



- |   |                    |   |
|---|--------------------|---|
| 1 | <b>Power</b>       | "Power-On" indicator light  |
| 2 | <b>RF Gain</b>     | For RF gain adjustment  |
| 3 | <b>Tilt</b>        | For Slope adjustment over the entire bandwidth                                      |
| 4 | <b>In</b>          | Input RF signal from headend combiner is connected to this port                     |
| 5 | <b>Out</b>         | Amplified RF signal is available to the main RF distribution network from this port |
| 6 | <b>Test Port</b>   | -30dB output test port for system monitoring  |
| 7 | <b>Power Cable</b> | For connection to a 115 VAC, 60Hz outlet  |

#### 4. HARDWARE CONNECTIONS

- a. The CTA-30RK-1000 is designed for installation in a standard 19" EIA rack.
- b. Connect a 75ohm coaxial cable with F-connectors from the headend combiner output to CTA-30RK-1000's In Port. Do not exceed the unit's maximum input level.
- c. Connect a 75ohm coaxial cable with F-connectors from the CTA-30RK-1000's Out Port to the main RF distribution network. Do not exceed the unit's maximum output level.
- d. Terminate the Test port with a Cabletronix F-TM3GZ terminator when not in use.
- e. Connect the CTA-30RK-1000 to an appropriate power source capable of powering this device. Be certain that power source is capable of handling the load if the CTA-30RK-1000 and other equipment are being powered by it.

#### 5. ADJUSTMENT

The chart below shows the proper operation levels for the CTA-30RK-1000. Note the listed performance criteria are for specific numbers of channels, and must be de-rated accordingly when inserting additional channels. However, the amplifier's available power does not change. Therefore, as the number of channels increases from seven (7) channels, the input level and the output level must be reduced. Exceeding the input levels listed below will product intermodulation and picture distortion.

Number Of Channels	Maximum Level Input (dBmV)	Maximum Level Output (dBmV)
7	44	66
12	41	53
36	32	54
54	23	45
78	18	40
108	14	36
125	11	32
158	8	30

Turn the CTA-30RK-1000's RF Gain control to achieve the maximum output levels identified above. Attenuators may be needed to achieve the above maximum input levels.

The CTA-30RK-1000's Tilt control should be used to set the appropriate slope per system specifications. Note that the Tilt allows the adjustment of the gain-to-frequency characteristic of the amplifier.

When making adjustments always apply the following principles:

- ✓ Input signal levels should ALWAYS exceed the noise figure of the amplifier by 3 to 6 dB.
- ✓ The primary purpose of tilt (equalization) in a cable TV plant is to compensate for the slope generated in coaxial cable between the high and low TV frequencies. When various TV channels, with respect to frequency, are transmitted through coaxial cable they are subjected to increasing attenuation (loss). Simply put, as the frequencies of the TV carriers are increased, attenuation loss (dB) increases. A variable tilt control is

installed in this amplifier to compensate for this slope in cable resulting in a flat frequency response at the output

## 8. TROUBLESHOOTING

- a. Ensure you are using quality multiple shielded cables with quality radial or compression F-connectors.
- b. Ensure the F-connector's center conductor is making solid contact with the CTA-30RK-1000's In and Out ports, and the appropriate headend combiner and RF distribution network connectors.
- c. When taking measurements it is always best to use a quality signal level meter. System level measurements should be taken from the CTA-30RK-1000's Out port. For field maintenance, the CTA-30RK-1000's Test port may be used. However, note that port is padded down -30dB and the 30dB must be added back in when determining system level settings and output.
- d. Further troubleshooting assistance can be found on-line at [www.northamericancable.com](http://www.northamericancable.com) and [www.cabletronix.com](http://www.cabletronix.com) in addition to support from Cabletronix sales engineers at 1-610-429-1511.

This is a notice to inform you that content passing thru this device may contain strong language or depictions of violence, sex or substance abuse. This unit contains no parental control features. Parental discretion is advised