



INSTALLATION MANUAL

CTMS-516RKPS Rack Mount Satellite Multiswitch

IMPORTANT INFORMATION



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 CTMS-516RKPS Rack Mount Satellite Multiswitch
- One CTMS-516RKPS Installation Manual

PRODUCT DESCRIPTION

The CTMS-516RKPS is a professional grade satellite multiswitch for 950 MHz to 2150 MHz IF distribution, and is compatible with DIRECTV phase three dish reception systems allowing 4 LNB inputs and 1 antenna providing 16 outputs. A 22 kHz tone is provided on 2 of the input ports and 14 to 18 volts DC are provided to power the LNB and conduct internal switching. A built-in amplifier compensates for satellite and/or VHF/UHF signal insertion loss. Advanced circuit design routes any of the inputs to any of the outputs via 13V to 14V RHCP or 17V to 18V LHCP switching control supplied by the satellite receivers. The CTMS-516RKPS is mountable in a 19" EIA rack.

SPECIFICATIONS

CTMS-516RKPS

Rack Mountable Satellite Multiswitch (Typical)

RF	
1. Frequency Range Antenna In Satellite In	40 – 2150 MHz 40 – 806 MHz 950 – 2150 MHz
2. Satellite Receiver Number	16
3. Impedance	75 Ohms
4. Insertion Loss Antenna In	-1.5 dB maximum, 40 – 806 MHz
5. Gain Satellite In	2 dB minimum, 950 – 1750 MHz 0 dB minimum, 1751 – 2150 MHz
6. Isolation Cross Polarization Output to Output Satellite In to Satellite In	-25 dB minimum, 950 – 2150 MHz -14 dB minimum, 40 – 806 MHz -28 dB minimum, 950 – 2150 MHz -35 dB minimum, 950 – 2150 MHz
7. Stop Band Attenuation	15 dB minimum, Ant port @ 950 MHz 15 dB minimum, Sat port @ 806 MHz
8. Return Loss Input / Output	-5 dB minimum, 40 – 806 MHz -8 dB minimum, 950 – 1450 MHz -6 dB minimum, 1451 – 2150 MHz
9. Input Capability Antenna In Satellite In	1dB compression 106 dBuV minimum @ 67.25 MHz input 108 dBuV minimum @ 950 MHz input
10. LHCP/RHCP Switching Point	RHCP 13V – 14V; LHCP 17V – 18V
11. 22 KHz Switching Point	150 – 300mVp-p Square Wave Testing
12. Output 22 KHz signal	22 +/- 4 KHz
13. Characteristic Frequency Amplitude	650 +/- 250 mVp-p
14. Power Input	120 VAC +/- 10%, 60 Hz, 140 mA
GENERAL	
1. Operating Temperature	32 °F ~ 122 °F
2. Connectors	All "F" Type
MECHANICAL	
1. Dimensions	19" (W) x 1.75" (H) x 5.5" (D)
2. Weight	4.8 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

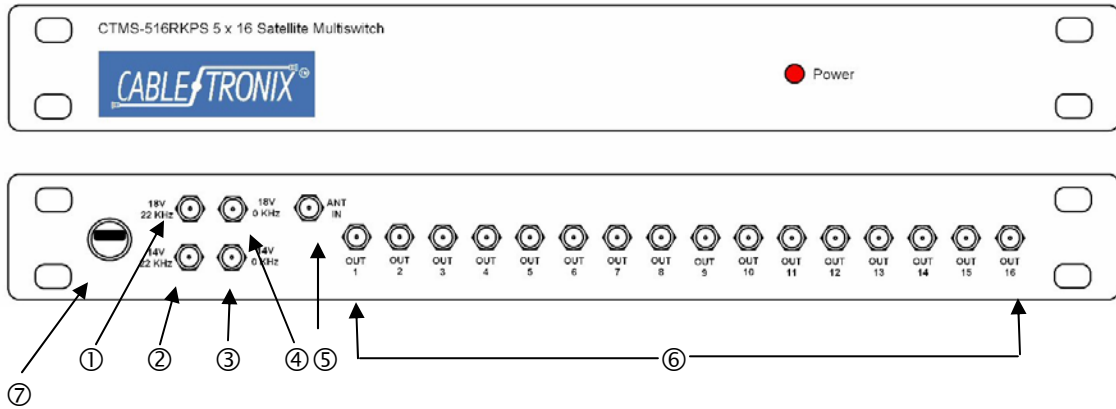
Each unit is shipped with all equipment assembled, and factory tested.

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 | 18V 22 KHz Port | For connection to the 18 Vdc 22 KHz LNB output |
| 2 | 14V 22 KHz Port | For connection to the 14 Vdc 22 KHz LNB output |
| 3 | 14V 0 KHz Port | For connections to the 14 Vdc 0 KHz LNB output |
| 4 | 18V 0 KHz Port | For connection to the 18 Vdc 0 KHz LNB output |
| 5 | Antenna Input | Connection to an Off-Air antenna |
| 6 | Output | Connection to satellite receivers |
| 7 | Power Cord | Connection to 120 VAC, 60 Hz power outlet |

4. HARDWARE CONNECTIONS

- a. The CTMS-516RKPS is designed for installation in a standard 19" EIA rack.
- b. Connect a 75ohm coaxial cable with F-connectors from the LHCP LNB Output for Satellite 101 to the CTMS-516RKPS' **LNB LHCP Input (18V, 0 KHz)** port.
- c. Connect a 75ohm coaxial cable with F-connectors from the RHCP LNB Output for Satellite 101 to the CTMS-516RKPS' **LNB RHCP Input (14V, 0 KHz)** port.
- d. Connect a 75ohm coaxial cable with F-connectors from the LHCP LNB Output for Satellite 119 to the CTMS-516RKPS' **LNB LHCP Input (18V, 22 KHz)** port.
- e. Connect a 75ohm coaxial cable with F-connectors from the RHCP LNB Output for Satellite 119 to the CTMS-516RKPS' **LNB RHCP Input (14V, 22 KHz)** port.
- f. If using an Off-Air antenna connect the antenna using 75ohm coaxial cable with F-connectors to the CTMS-516RKPS' **Antenna Input** port. A preamplifier may be needed.
- g. Connect a 75ohm coaxial cable with F-connectors from one of the CTMS-516RKPS' **Output** ports to the input of a satellite receiver. Repeat for each satellite receiver.
- h. Connect the CTMS-516RKPS' power cord into a 120 VAC, 60Hz receptacle.

Note: The CTMS-516RKPS may require a SAT C kit for Satellite 101.

5. ADJUSTMENT

No adjustments to the CTMS-516 RKPS can be made.

However, it is important to ensure all headend equipment including modulators, combiners, and amplifiers are adjusted to the proper signal levels per the headend design specifications.

6. TROUBLESHOOTING

- a. Ensure you are using quality multiple shielded high frequency cables with quality radial or compression F-connectors.
- b. Ensure the F-connector's center conductor is making solid contact with the CTMS-516RKPS Input and Output ports, the LNB connectors, and the satellite receiver input connectors.
- c. Further troubleshooting assistance can be found on-line at www.northamericacable.com and 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.