

Exhibit E

User's Manual

RadioShack A Division of Tandy Corporation

FCC ID.:AAO1501981

CATV CONVERTER

Cat. No. 15-1981
OWNER'S MANUAL

Please read before using the equipment.

REMOTE CONTROL CABLE CONVERTER

181- CHANNEL



RadioShack®

FEATURES

Your RadioShack 181 channel remote control converter is compatible with all cable systems and all aerial TV broadcast and gives you complete remote control selection of all cable and aerial channels you can also use the remote control to fine tune and turn on, or off most TVs.

The converter transmits the cable signal through Channel 3 or 4 of your TV's tuner, also known as the cable output channel. Once you select the cable output channel, you can use the converter or its remote control to select the desired channels.

Note: You need two AAA batteries to operate your converter. You might also need a 75-to-300 ohm transformer (if your TV has only 300-ohm terminals).

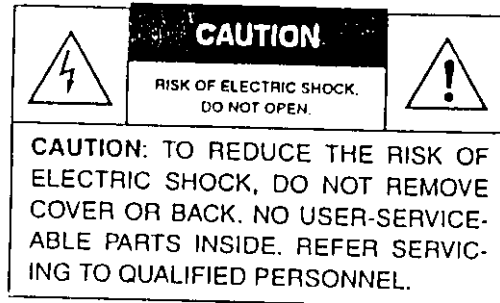
We recommend you record your converter's serial number here. The number is on the bottom of the converter.

Serial Number _____

This digital apparatus does not exceed the class B limits for radio noise emissions from digital apparatus.

Note to cable TV system installer: This reminder is provided to call the CATV system installer's attention to article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground be connected to the grounding system of the building as close to cable entry as practical.

Warning: To prevent fire or shock hazard, do not expose this product to rain or moisture.



This symbol is intended to alert you to the presence of uninsulated dangerous voltage within the product's enclosure that might be of sufficient magnitude to constitute a risk of electric shock. Do not open the product's case.



This symbol is intended to inform you that important operating and maintenance instructions are included in the literature accompanying this product.

Notes : The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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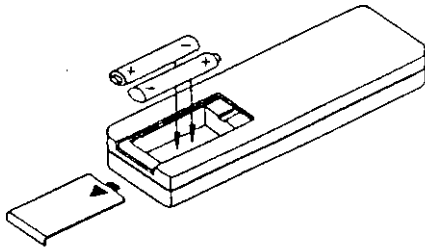
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PREPARATION

INSTALLING THE REMOTE CONTROL'S BATTERIES

You need two AAA batteries (not supplied) to power the remote control. We recommend alkaline batteries, available from your local RadioShack /Tandy store.



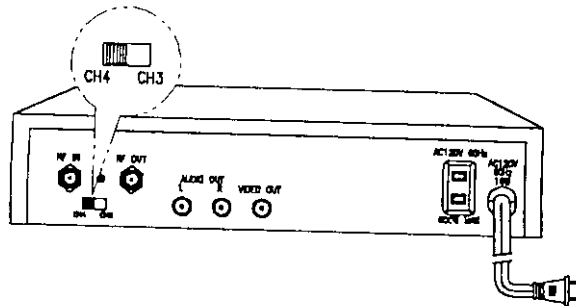
1. Remove the battery compartment cover by sliding it in the direction of the arrow.
2. Install the batteries as indicated by the polarity symbols (+ and -) marked inside the compartment.

Note: Use only fresh batteries of the required size and type.

3. Replace the cover.

SETTING THE CH3-CH4 SWITCH

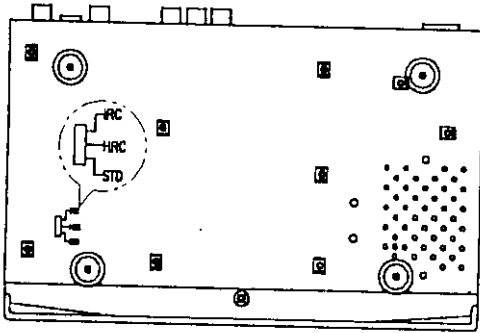
Set your TV's tuner to Channel 3 or 4 (whichever is not used for broadcasts in your area). Then set the converter's **CH3-CH4** switch to match the channel you selected on your TV's tuner.



CHOOSING THE CABLE SYSTEM TYPE

There are three types of cable TV channel frequency systems: Standard, IRC, and HRC. Because most cable systems use a standard system, your converter is preset to **STD** at the factory.

If the cable system in your area is not standard, use a submini screwdriver set the **IRC/STD/HRC** switch on the bottom of the converter for the type of cable system you have. If you do not know what type you have, contact your cable company.



Notes:

- HRC and IRC are methods used by some cable companies for converting the satellite and local broadcast channels to cable channels. Channels 5 and 6 on IRC systems and all channels on HRC systems are slightly different frequencies from those used on standard systems.

- Disconnect the AC power before setting the **IRC/STD/HRC** switch. When the cable system type is setup, plug the converter's power cord into an AC outlet and turn on the converter.

USING THE SWITCHED AC OUTLET

The converter's switched AC outlet provides a source of 120V, 60Hz power (up to 600 watts) for your TV or an-other electronic device. The **POWER** button on the converter or on the remote control turns both the converter and this outlet on and off.

Notes:

- If you plug your TV into the switched AC outlet and your TV has an instant-on feature, it goes into a standby mode when the converter is turned on so you must turn on your TV separately.
- If your digital TV tuner automatically resets to a channel other than 3 or 4 when you turn the power off at the outlet, you might prefer to leave your TV plugged into a standard AC outlet and turn it on and off manually.

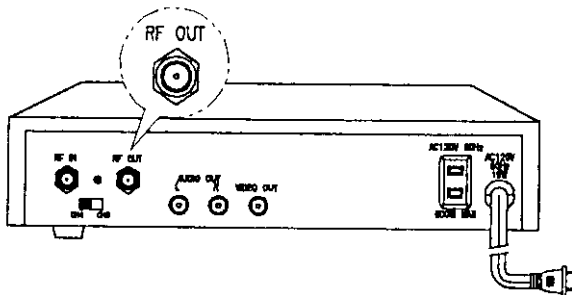
CONNECTING THE CONVERTER

CONNECTING TO POWER

Plug the converter's power cord into a standard AC outlet (120V, 60Hz).

CONNECTING TO A TV

Use the supplied 75-ohm coaxial cable with an F type connector to connect the 75-ohm terminal on your TV to the **RF OUT** terminal on the back of the converter. If your TV has only 300-ohm terminals, use a 75-to-300 ohm transformer (not supplied), available from your local RadioShack /Tandy store.



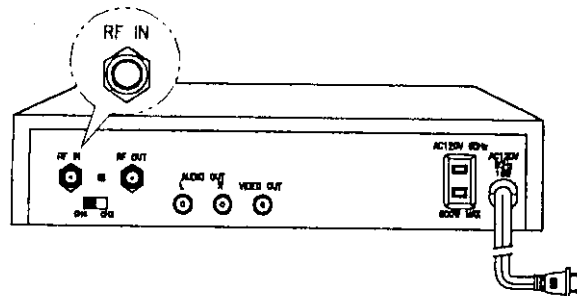
CONNECTING TO CABLE

How you connect your converter depends on the complexity of your video system. Refer to the connection example that is most similar to your system.

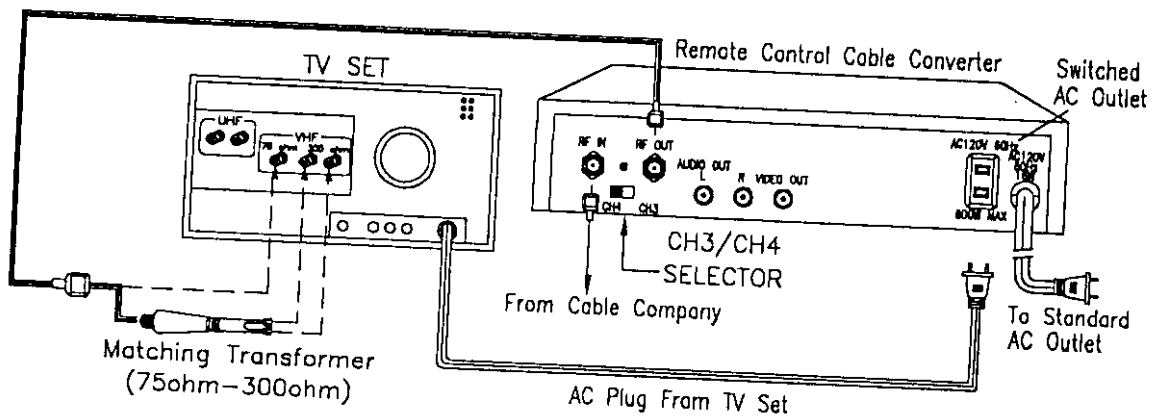
Notes:

- Your system might use a combination of two or more of the following examples. If you have questions, take a diagram of your system to your local RadioShack /Tandy store for assistance.
- Check local regulations before connecting any device to your cable system.

Connect the cable company's coaxial cable to the **RF IN** terminal on the back of the converter.

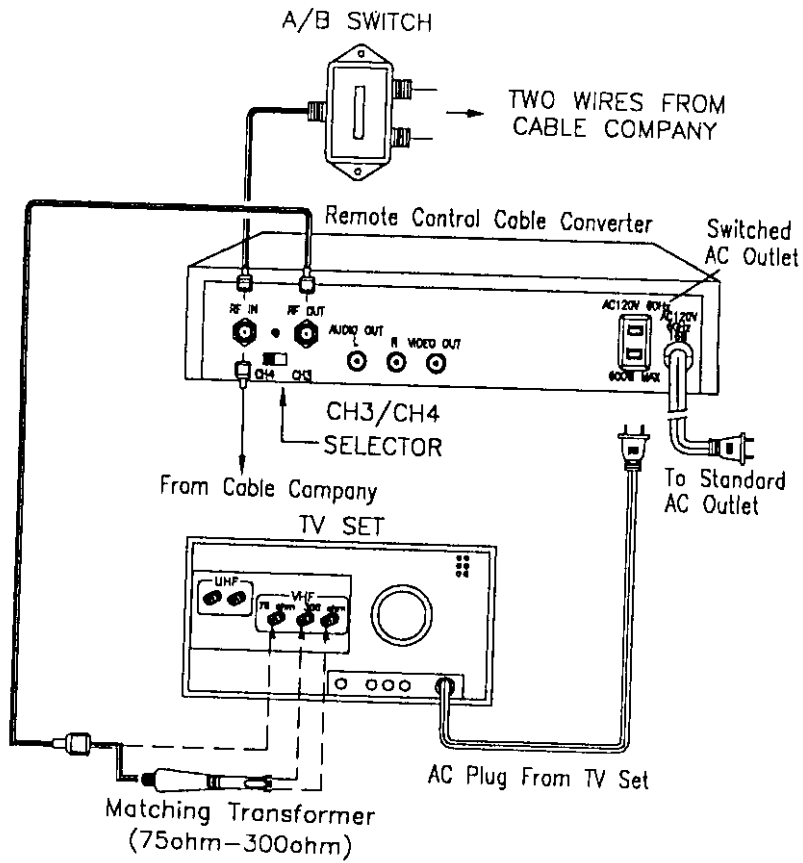


Single-Wire Cable System



Two-Wire Cable System

Some cable systems offer more than 181 channels and include two incoming wires. To use your converter with such a system, install an A/B switch (not supplied), available from your local RadioShack/Tandy store, to connect the cable company's wires to the converter.



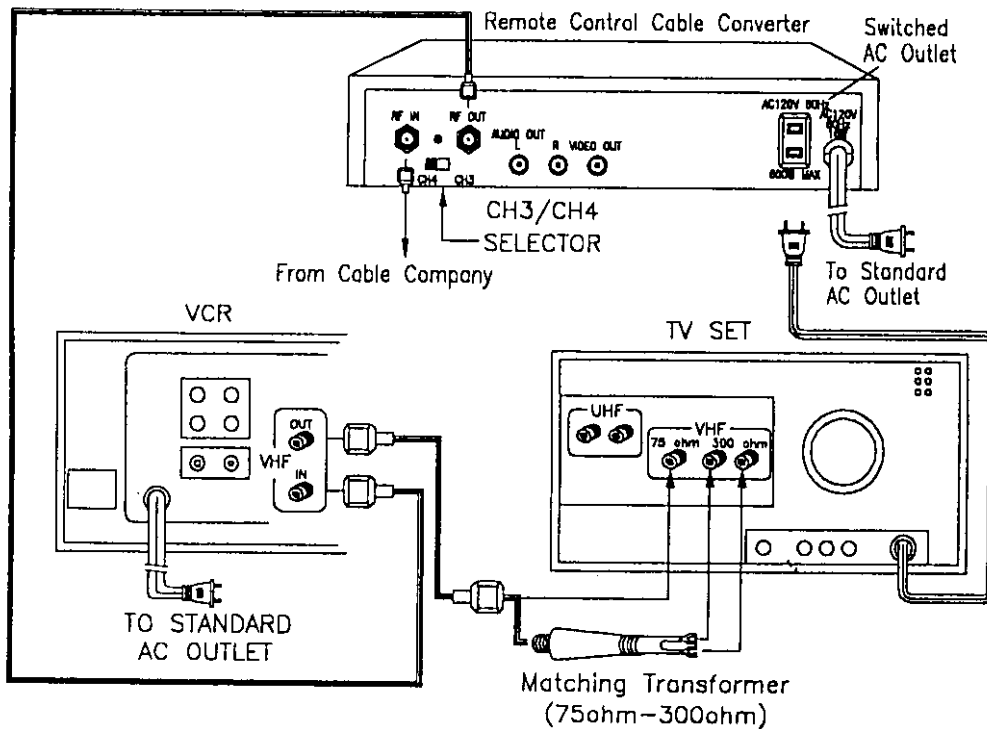
Use the A/B switch to select the group of channels you want to watch.

CONNECTING TO A VCR

You can use a VCR with your cable converter and TV set.

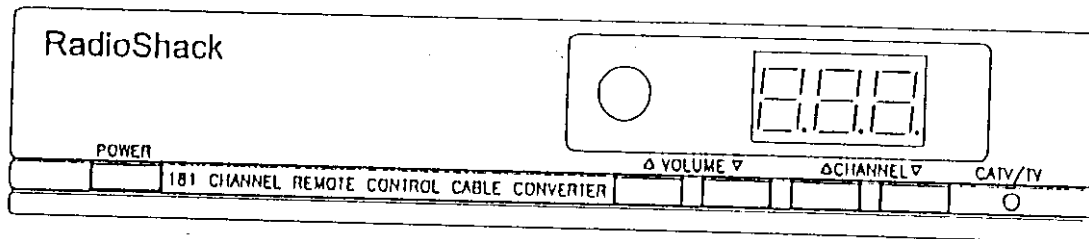
For Recording and Viewing a Non-Premium Cable Channel

This connection lets you record a non-premium cable channel while you view it.



OPERATION

OPERATING THE RECEIVER



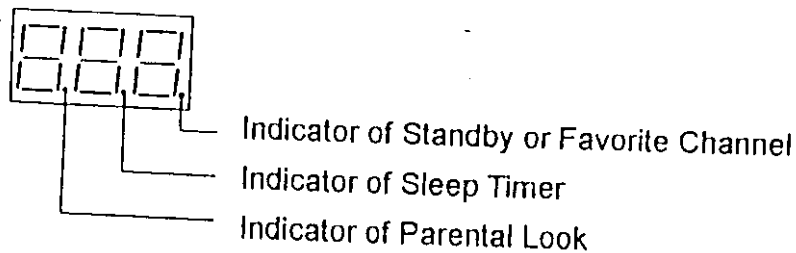
Press **POWER** to turn the converter and the switched AC outlet on and off. When the converter been turn off, a LED dot (at lower right corner) is lit up to indicate the converter is in standby mode.

Press **CHANNEL ▲** or **▼** on the converter to select individual channels, or press and hold **CHANNEL ▲** or **▼** to scan channel in the direction of the arrow.

Press **VOLUME ▲** or **▼** to adjust the volume.

Press **CATV/TV** to select between CATV mode and TV mode. When in TV mode, the channel number displayed is preceded with a **U**.

Display Indications



Example :

- **125** – CATV channel number 125.
- **U16** – TV channel number 16.
- **U52.** – TV channel 52 is a favorite channel.
- **11.5** – CATV channel 115 is in receiving and the sleep timer is set up.
- **1.2.5.** – CTAV channel 125 is been parental locked and it is also a favorite channel. The sleep timer is set up.

-
- $\subseteq \subseteq$ – Press **MEM** or **FAV** to start a memory operation.
 - $\cup \cup$ – Press **PL** to activate the parental lock.
 - $\cup 1$ – the entry of the 1st number of parental control code.
 - $\cup 2$ – the entry of the 2nd number of parental control code.
 - $\cup 3$ – the entry of the 3rd number of parental control code.
 - $\supset \supset$ – Press **FT ▼** to confirmed your entry, or erase a functional programming from the memory.
 - $\subset \subset$ – Press **FT ▲** to confirm your entry, or store a functional programming in the memory.

USING THE REMOTE CONTROL

The remote control lets you operate your converter from across the room. For the most dependable operation, point the remote control toward the converter's display.

POWER—press to turn the converter and the switched AC outlet on and off.

VOL ▲ or ▼—press to adjust the sound level.

LAST (Last Channel Recall)—press to recall the channel you selected before the current channel.

CH ▲ or ▼—press to select individual channels or scan channels in the direction of the arrow. The converter's display shows the channel number.

Number Buttons (0-9)—press to directly select channels. You must precede single-digit channels with two 0 (002, 003,)

FAV — Use with **FT▲** to store a favorite channel and use with **FT▼** to delete a favorite channel from the memory.

MEM — Uses with **FT▲** to store the amount of fine tuning of receiving frequency.

FT▲/ FT▼ (Fine Tuning)—press to receive the best possible reception or confirm the entry of **MEM**, **FAV** and **PL**.

CTAV/TV — press to select between CATV mode and TV mode.

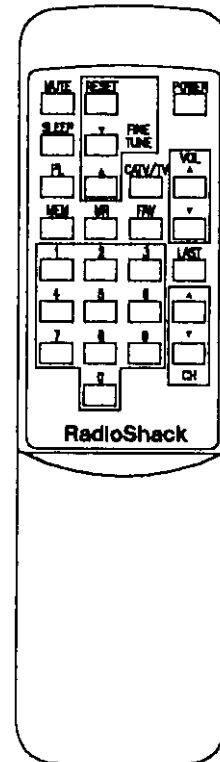
RESET (Fine Tuning Center) Button —press to return to the default setting.

SLEEP—lets you set your converter to automatically turn off after the preset time.

MR (Favorite Channel Memory Recall)—press to tune to your favorite channel stored in memory.

PL (Parental Lock) — press to lock channels with adult programs.

MUTE—press to temporarily turn off sound. To restore the sound, press **MUTE** again.



Remote Control TVs

If your TV has a remote control and your converter's remote control interferes with the TV's operation, either turn off the TV's remote control feature (if the TV has a remote control on/off switch) or put a piece of black tape over the TV's remote control receiver windows. If your TV uses an ultrasonic remote control system, there should not be any interference problems.

STORING/REMOVING A FAVORITE CHANNEL IN MEMORY

To store a favorite channel in memory, simply select a channel, press **FAV** then press **FT ▲**. The red dot at the lower right corner of the display lights. Press **MR** to select the channel.

To remove the stored channel from memory, select the channel, press **FAV**, then press **FT ▼**. The red dot disappears.

Note: Press button within 2 seconds when you store or remove a favorite channel.

SETTING THE SLEEP TIMER

Follow these steps to set the length of time (90, 60, or 30 minutes) before the converter automatically turns off.

1. Press **SLEEP**. **90** appears and
2. Repeatedly press **SLEEP** until the desired length of time appears. The length of time briefly shows on the display.

Notes:

- To see the remaining time on the timer, press **SLEEP** once.
- To turn off the timer, press **SLEEP** until **00** appears. The sleep timer indicator disappears and the converter stays on until you turn it off.
- Press button within 2 seconds on each step.

When the preset time is reached, **00** appears and the converter automatically turns off.

SETTING PARENTAL LOCK

To prevent children from watching the adult programs, you may enter the factory preset four-digit code (2999) to lock up these programs.

Selecting the Channels to be Parental Locked

1. Aim the remote control to the converter's display.
2. Press **CH ▲** or **▼** to select the desired channel you wish to be parental locked.
3. Press **PL** then press **FT ▲** to lock the desired channel. **CC** appears to confirm the entry. Release **FT ▲**, **U.U** appears to indicate the channel is locked.

Note: Press each button on step 3 within 2 seconds.

Watching a Channel Which is Parental Controlled

1. Aim the remote control to the converter's display.
2. Press **CH ▲** or **▼** to select the desired parental locked channel you want to watch.
3. Press **PL** and enter the four-digit code **2999**. The converter displays **U1**, **U2**, **U3** two seconds later and the channel is unlocked.

Notes:

- Press each button on step 3 within 2 seconds.
- Once you unlock one of the parental locked channels, all the locked channels are unlocked.
- To lock up all the unlocked channels again, press **POWER** to turn off the converter. Then press **POWER** to turn on the converter.

Removing Channels From Parental Lock

1. Aim the remote control to the converter's display.
2. Press **CH ▲** or **▼** to select the desired locked channel.
3. Press **PL** then enter the security code to unlock the channel. The indicator between two digits lights.
4. Press **PL** and **FT▼** **⇒⇒** appears to confirm the entry. Release **FT ▼**, the indicator between two digits disappears to show the parental locked channel is deleted.

Notes:

- Press each button on step 3 and step 4 within 2 seconds.
- You must delete the parental lock separately after the locked channel is unlocked.

CHANGING THE SECURITY CODE

1. Aim the remote control to the converter's display.
2. Press **CH ▲** or **▼** to select the desired locked channel.
3. Press **PL** then enter the factory preset four-digit code **2999** to unlock the channel.
4. Press **PL** and enter the desired four-digit security code by pressing (0-9) number buttons.
5. Press **FT ▲** to complete the setting.

RESETTING THE SECURITY CODE

1. Follow steps 1 – 3 on "Changing the Security Code".
2. Press **PL** and enter the master code **71269**. The security code automatically resets to **2999**.

Note: Press **PL** and enter the master code within 3 seconds, otherwise the converter cannot reset the preset security code.

USING MUTE

Press **MUTE** on the remote control to temporarily turn off the sound. To restore sound, press **MUTE** or **VOLUME ▲** or **▼**.

USING VOLUME

Press **VOL ▲** or **▼** on the remote control or **VOLUME ▲** or **▼** on the converter to adjust the desired sound level.

VARIATIONS IN CHANNEL NUMBERING

Some cable companies use a channel numbering system different from your converter. For example, the channel your cable company calls 21 might be 18 on the converter's display.

Use the channel number labels on the converter and remote control to mark the cable company's channel numbers that differ from the channels on the converter's display.

1. Channel numbering in CATV mode.

Indicator	Cable	Indicator	Cable	Indicator	Cable
1	1	25	L	49	MM or W+13
2	2	26	M	50	NN or W+14
3	3	27	N	51	OO or W+15
4	4	28	O	52	PP or W+16
5	5	29	P	53	QQ or W+17
6	6	30	Q	54	A6 or W+18
7	7	31	R	55	A7 or W+19
8	8	32	S	56	A8 or W+20
9	9	33	T	57	A5 or W+21
10	10	34	U	58	A4 or W+22
11	11	35	V	59	A3 or W+23
12	12	36	W	60	A2 or W+24
13	13	37	AA or W+1	61	A1 or W+25
14	A	38	BB or W+2	62	RR or W+26
15	B	39	CC or W+3	63	SS or W+27
16	C	40	DD or W+4	64	TT or W+28
17	D	41	EE or W+5	65	UU or W+29
18	E	42	FF or W+6	66	VV or W+30
19	F	43	GG or W+7	67	WW or W+31
20	G	44	HH or W+8	68	XX or W+32
21	H	45	II or W+9	69	YY or W+33
22	I	46	JJ or W+10	70	ZZ or W+34
23	J	47	KK or W+11	71	AAA or W+35
24	K	48	LL or W+12	72	BBB or W+36

Indicator	Cable
73	CCC or W+37
74	DDD or W+38
75	EEE or W+39
76	FFF or W+40
77	GGG or W+41
78	HHH or W+42
79	III or W+43
80	JJJ or W+44
81	KKK or W+45
82	LLL or W+46
83	MMM or W+47
84	NNN or W+48
85	OOO or W+49
86	PPP or W+50
87	QQQ or W+51
88	RRR or W+52
89	SSS or W+53
90	TTT or W+54
91	UUU or W+55
92	VVV or W+56
93	WWW or W+57
94	XXX or W+58
95	A-5
96	A-4

Indicator	Cable
97	A-3
98	A-2
99	A-1
100	YYY or W+59
101	ZZZ or W+60
102	W+61
103	W+62
104	W+63
105	W+64
106	W+65
107	W+66
108	W+67
109	W+68
110	W+69
111	W+70
112	W+71
113	W+72
114	W+73
115	W+74
116	W+75
117	W+76
118	W+77
119	W+78
120	W+79

Indicator	Cable
121	W+80
122	W+81
123	W+82
124	W+83
125	W+84

2. Channel numbering in TV mode.

Indicator	TV
U1	1
U2	2
U3	3
U4	4
U5	5
U6	6
U7	7
U8	8
U9	9
U10	10
U11	11
U12	12
U13	13
U14	14
U15	15
U16	16
U17	17
U18	18
U19	19
U20	20
U21	21
U22	22
U23	23
U24	24

Indicator	TV
U25	25
U26	26
U27	27
U28	28
U29	29
U30	30
U31	31
U32	32
U33	33
U34	34
U35	35
U36	36
U37	37
U38	38
U39	39
U40	40
U41	41
U42	42
U43	43
U44	44
U45	45
U46	46
U47	47
U48	48

Indicator	TV
U49	49
U50	50
U51	51
U52	52
U53	53
U54	54
U55	55
U56	56
U57	57
U58	58
U59	59
U60	60
U61	61
U62	62
U63	63
U64	64
U65	65
U66	66
U67	67
U68	68
U69	69

CARE AND MAINTENANCE

Your RadioShack 181 Channel Remote Control Cable Converter with Volume Control is an example of superior design and craftsmanship. The following suggestions will help you care for your converter so you can enjoy it for years.



Keep the converter dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.



Use and store the converter only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.



Keep the converter away from dust and dirt, which can cause premature wear of parts.



Handle the converter gently and carefully. Dropping it can damage circuit boards and cases and can cause the (product name) to work improperly.



Use only fresh batteries of the required size and type. Old batteries can leak chemicals that damage your converter's electronic parts.



Wipe the converter with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the converter.

Modifying or tampering with the 181Channel Remote Control Cable Converter's internal components can cause a malfunction and might invalidate your converter's warranty. If your converter is not performing as it should, take it to your local RadioShack/Tandy store for assistance.

INDUSTRY CANADA WANTS YOU TO KNOW

Your converter might cause TV or radio interference even when it is operating properly. To determine whether your converter is causing the interference, turn off your converter. If the interference goes away, your converter is causing it. Try to eliminate the interference by:

- Moving your converter away from the receiver
- Connecting your converter to an outlet that is on a different electrical circuit from the receiver
- Contacting your local Radio-Shack/Tandy store for help

If you cannot eliminate the interference, Industry Canada requires that you stop using your converter.

SPECIFICATIONS

REMOTE CONTROL

Range	8m (26feet)/30° Angle
Power Source	Two 1.5 Volt (AAA) Batteries
Dimensions (HWD)	16×50×175 mm
Weight (with Batteries)	76 grams

CONVERTER

RF

Input Bandwidth	54-806 MHz
Output Channel (NTSC)	3 or 4
Input/Output Impedance	75 Ohms
Noise Figure	16 dB Max.
Max. Cross Modulation	-57 dB (70 Ch. In, each at +/- 12dBmV)
Fine-Tuning Range	+/- 4 MHz in 62.5 kHz Steps
Frequency Stability	+/- 250 kHz
Output Level	66 dB μ V type
Video Carrier Center Frequency Accuracy	+/-100 kHz Max.
Sound Carrier Center Frequency Accuracy	4.5 MHz +/-20 kHz
P/S Ratio	16 +/- 3 dB
Local Oscillator Leakage	-10 dBmV Max. at input

Video and Audio

Video Output	1 Vp-p
Video Output Impedance	75 Ohms
Audio Output	1 Vp-p
Audio Output Impedance	600 Ohms

Power Consumption	16 Watts at 120 volts AC 60 Hz
Dimensions	50×246×156 mm (HWD)
Weight	1.35 kg

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

InterTAN WARRANTY

InterTAN warrants that this product will be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. Within this period, simply take the product and your proof of purchase to any InterTAN store or dealer and the product will be repaired without charge for parts and labour. InterTAN reserves the right to charge for transportation. Any product which has been subject to misuse or accidental damage is excluded from this warranty.

This warranty is only applicable to a product purchased through InterTAN's company owned stores and dealers and to a product that is presented for repair in a country where InterTAN offers the product for sale. While this warranty does not confer any legal rights other than those set out above, you may have additional statutory rights which will vary under the laws of the various countries, states, provinces and other governmental entities in which InterTAN operates. This warranty is subject to all statutory rights you may have in the country of purchase.

WE SERVICE WHAT WE SELL

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