

NORSAT ANTENNA POSITIONERS

Models NCM 252 • 276 • 300 with remote control



NORSAT INTERNATIONAL INC.
SURREY, B.C., CANADA V3W 8E7

Printed in Canada

CAUTION:
TO PREVENT ELECTRIC SHOCK DO NOT USE POLARIZED PLUGS
WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET
UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT
BLADE EXPOSURE.

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NOTE: READ 'IMPORTANT SAFETY INSTRUCTIONS' SHEET PROVIDED WITH
THIS MANUAL BEFORE INSTALLING THIS APPLIANCE.

The serial number of this product may be found on the back of the unit. No
others have the same serial number as yours. You should record the number and
other vital information here and retain this book as a permanent record of your
purchase to aid identification in case of theft.

Date of Purchase _____

Dealer Purchase From _____

Dealer Address _____

Dealer Phone No. _____

Model No. _____

Serial No. _____

FEATURES NCM 252/276/300

Your Remote Antenna Controller allows you to have complete antenna control and satellite selection from the comfort of your living room.

There are many safety and convenience features which will greatly enhance your viewing pleasure. These include:

- Highly reliable motor drive and remote control electronics.
- Both automatic and manual remote antenna positioning.
- Fully automatic satellite selection by preset.
- Microprocessor memory store for 10 satellite positions.
- Digital LED antenna position indicator. Parental lock.
- Overload alarm and protection.

NCM 300 REMOTE CONTROL

SPECIFICATIONS

GENERAL

SIZE:	9.5 x 3.0 x 11 ins
WEIGHT:	5 lbs.
POWER:	115 \pm 15% VAC 50/60 Hz. 150 watts
TEMPERATURE RANGE:	0 to +40 deg. C

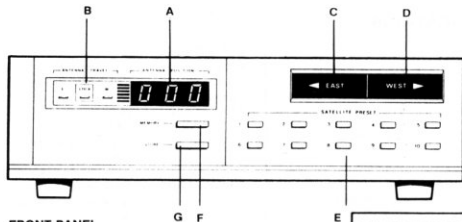
NCM 300 ONLY Infrared Remote Control

Range 25 ft.

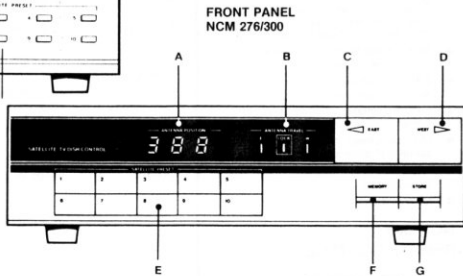
ELECTRICAL

POSITION INDICATION:	3 digit LED display
TRAVEL INDICATION:	LED's for EAST, WEST and LOCK
MEMORY:	10 preset Satellite positions 2 digit lock out code
TRAVEL TIME:	3 min. maximum
ACCURACY:	Will return to ± 0.032 in.
POSITION SENSOR:	Hall effect device
PROTECTION:	Overload and over travel protection

ANTENNA POSITIONERS

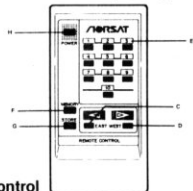
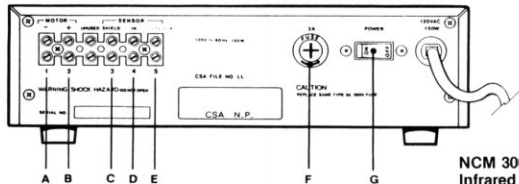


FRONT PANEL
NCM 252



FRONT PANEL
NCM 276/300

REAR PANEL



NCM 300 only
Infrared Remote Control

FRONT PANEL AND REMOTE CONTROL FUNCTIONS

A. LED ANTENNA POSITION INDICATOR

— Gives a relative indication of where the antenna is located. (Your Eastern Limit is indicated by "000". From "000" any Westward movement of the antenna is indicated by a numerical increase.)

B. ANTENNA TRAVEL INDICATOR

EAST — This lamp is lit when the antenna is travelling in an Easterly direction.

WEST — This lamp is lit when the antenna is travelling in a Westerly direction.

LOCK — This lamp is lit when the antenna is in a locked position.

- C. **EAST TRAVEL** — Depress this button for an Easterly movement of the antenna.

- D. **WEST TRAVEL** — Depress this button for a Westerly movement of the antenna.

- E. **PRESET STATION 1-10** — Each (preset station) will store and memorize a single satellite location.

- F. **MEMORY KEY** — Depress this key once you have found a satellite position that you wish to store in memory.

- G. **STORE KEY** — Depress this key to store a satellite position in memory.

- H. **POWER KEY - ON/OFF**

Rear Panel

- A. **MOTOR " - "**

- B. **MOTOR " + "**

- C. **SENSOR "SHIELD"**

- D. **SENSOR "IN"**

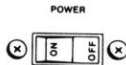
- E. **SENSOR " + 5V, 6mA "**

- F. **AC FUSE**
Use 125 VAC 3 AMP fuse only.

- G. **POWER SWITCH**
Turns all Remote Antenna Controller power on or off.

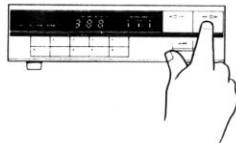
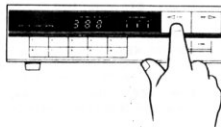
OPERATION

- 1) Power on: Turn power switch ON.
 - 2) Power off: Turn power switch OFF.
- Antenna position indicator will display the antenna position.

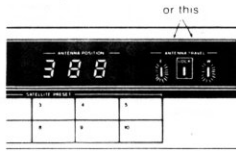


MANUAL DISH DRIVE

- 1) Depress the EAST or WEST switch to find the desired satellite.



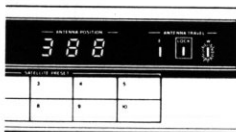
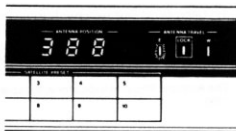
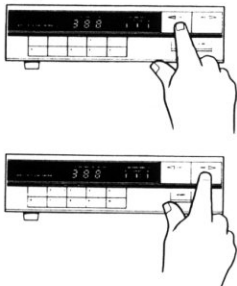
Displays the direction in which the antenna is travelling.



LIMIT ALARM

The antenna can physically move to a specific Eastern or Western limit. To prevent driving beyond these limits the following will indicate that a limit has been reached:

- the East or West antenna travel indicator will flash for 3 seconds
- a buzzer will sound for 3 seconds.

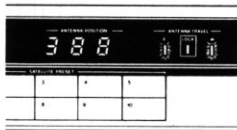


OVERLOAD ALARM

In an overload situation **both** travel lamps flash and the alarm buzzer rings for 3 seconds. The motor drive power is automatically switched off for 3 seconds.

Check that your antenna is free to move before attempting to use the Remote Antenna Controller again.

Some reasons for a motor overload are heavy loads of snow or freezing rain around the motor or mount.

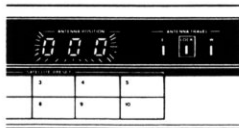
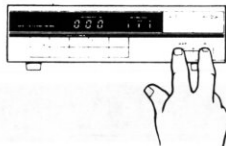


INITIAL SETUP

Set the origin of the dish position. The origin is the furthest point to the East that you can move your dish.

- 1) Depress both the Memory and the Store switch at the same time. Hold for more than 3 seconds.

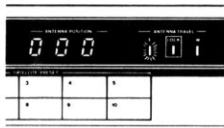
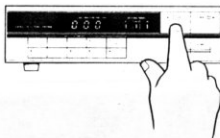
The Antenna Position Indicator will flash "000".



- 2) Depress the East switch until it reaches the eastern limit.

The drive will automatically stop. A buzzer will sound for 3 seconds. You have now set your origin at 000.

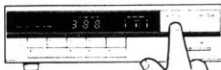
The Antenna Position Indicator will display "000".



STORING SATELLITE POSITIONS IN MEMORY

- 1) Depress the EAST or WEST switch to find the desired satellite.

EAST or WEST travel indicators will display the direction in which the dish is travelling.

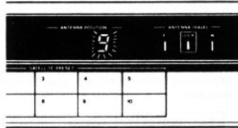


When you have found the desired satellite, the antenna position indicator will display this location as a three digit number.

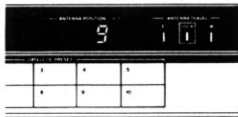
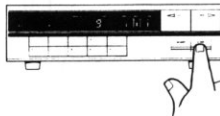
- 2) Depress the MEMORY switch to store this location. The location number will flash on and off.



- 3) Select the preset number you wish to give this satellite. Depress the PRESET switch for that number. The number selected will flash.



- 4) Depress the STORE switch. The Antenna Position Indicator will display the stored number.

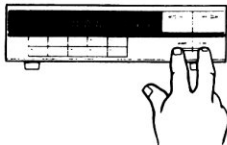


If the store switch is not depressed in approx. 5 seconds, the MEMORY or PRESET is cancelled and the controller will return to its former state.

- 5) Repeat steps 1-4 to program the remaining satellite preset positions.

- 6) Record your preset satellite positions on the chart supplied.

NOTE: You can clear all preset memories depressing both MEMORY and STORE switches.



AURORA
F5

SATCOM
F1R

GALAXY
1

SATCOM
F3

COMSTAR
D4

WESTAR
5

ANIK
B

ANIK
D1

WESTAR
4

TELSTAR
301

WESTAR
3

COMSTAR
D3

SATCOM
F4

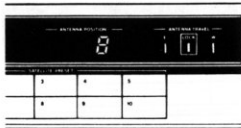
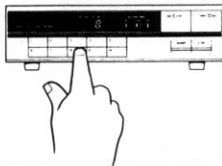
WESTAR
2

SATCOM
F2R

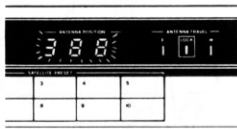
DISH DRIVE BY PRESET

- 1) Depress the PRESET switch for the satellite which you desire.

The PRESET number will be displayed and the antenna will move to the satellite position stored in the preset memory.

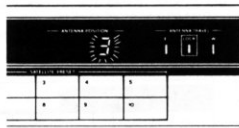
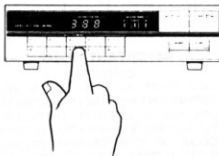


- 2) To check the antenna position after you have selected a satellite by preset, press the preset number for a second time. The antenna position will flash for 3 seconds and then return to the preset display.



- 3) If you press the wrong Preset switch:
— depress the same preset switch for a second time.

The dish will stop and the LED will display the present antenna position. Select the correct preset switch.



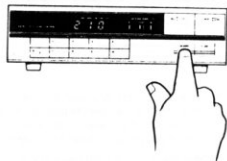
- 4) If you depress a preset switch which does not have a satellite position stored in memory the preset number will flash and a buzzer will sound for 3 seconds.

Repeat steps 1 to 4 from page #10 to store your desired satellite position.

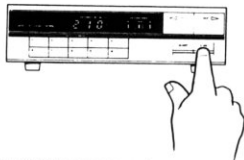
PARENTAL LOCK

This function allows you to lock your antenna on a selected satellite.

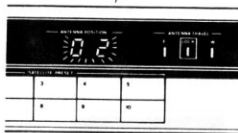
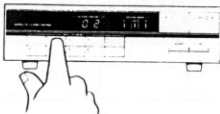
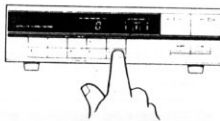
- 1) Select the satellite you wish to lock the antenna on.
- 2) Depress the MEMORY switch.



- 3) Depress the STORE switch.



- 4) Enter your access code
Your access code must have two digits. Preset switch "10" will act as "0".
(Example: If you press "10" and "2" your access code will display as "02".
Record your access code as displayed.

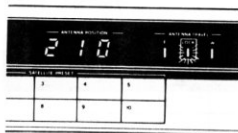
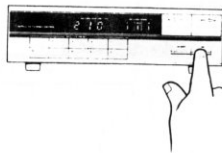


IMPORTANT NOTE

CAUTION

TWO DIGIT ACCESS CODES ARE PERMANENT AND ARE REQUIRED TO UNLOCK A LOCKED SATELLITE. PLEASE WRITE DOWN YOUR ACCESS CODE. IF YOU CANNOT RECALL YOUR ACCESS CODE YOU WILL BE REQUIRED TO TRY EVERY COMBINATION FROM 00 TO 99!

- 5) Depress STORE switch to store your two digit access code. The antenna will then be locked on the selected satellite as displayed.



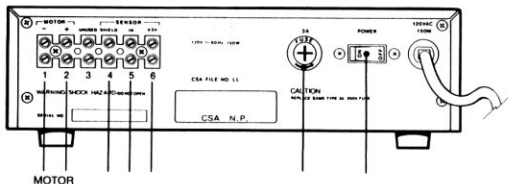
To unlock a satellite that is in a locked position, repeat steps 2-5.

ACTUATOR WIRING DIAGRAM

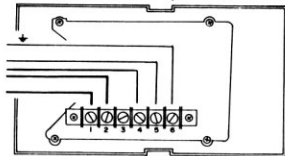
REAR PANEL

1. MOTOR
2. MOTOR
3. NO CONNECTION
4. SHIELD (GROUND)
5. SENSOR IN
6. +5 VOLTS

(NOTE: 5 and 6 are for Reed switch)

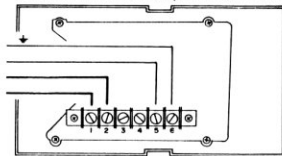


ACTUATOR MOTOR (HALL SENSOR)



1. MOTOR
2. MOTOR
3. NO CONNECTION
4. GROUND (SHIELD)
5. +5 VOLTS
6. SENSOR

ACTUATOR MOTOR (REED SWITCH)



1. MOTOR
2. MOTOR
3. NO CONNECTION
4. GROUND (SHIELD)
5. REED SWITCH
6. REED SWITCH

NOTE: REED SWITCH CONNECTION IS TO TERM 5 (SENSOR IN) AND TERM 4 (SHIELD) ON THE REAR PANEL OF THE CONTROLLER.