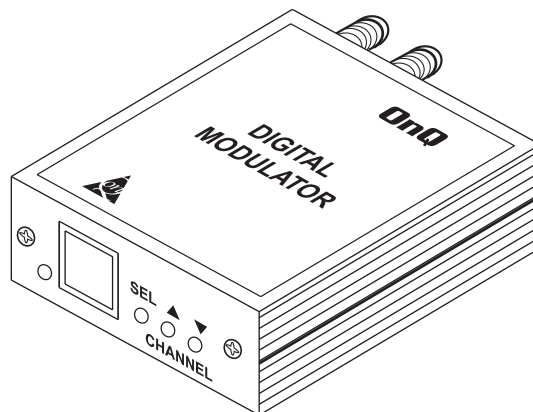




Digital Modulator

Installation/Instruction Manual



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Manual No. - 1307567 Rev. C

Table of Contents

Description	Page Number
Front Panel Description	1
Rear Panel Description	2
Installation	3
Installing the Modulator	3
Set-Top Installation	3
Channel Programming	4
Available Channels	5
Low Pass & Notch Filters	5
Attenuators	5
Channel Separation	5
Selecting Modulator Channel	6
Using Multiple Modulators	6
Specifications	8

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Specifications

RF	
Output Frequency Range	470-860MHz
Output Channels	Cable channels 65-94, 100-135
Output Level	25dBmV TYP
Output Impedance	75 Ω
VIDEO	
Input Level	4Vp-p
Input Impedance	75 Ω
S/N Ratio	52 dB. TYP
AUDIO	
Input Level	500mVp-p
Input Impedance	75 Ω
S/N Ratio	50dB. TYP
PHYSICAL	
Size	3-3/4" L x 3" W x 1.1" H (95, 76, 28mm)
Weight	4oz
Power	110-120V VAC, 60Hz
Current draw	200 mA

Front Panel Description

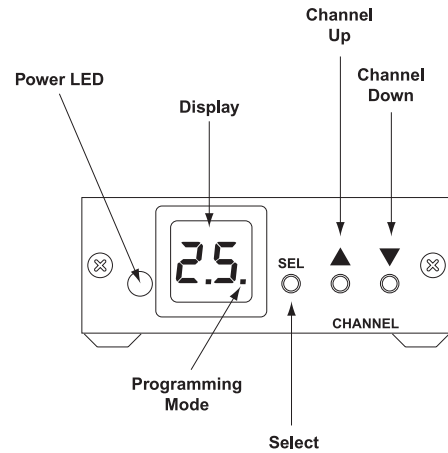


Figure 1

1. Front Panel Descriptions
 - A. Power Indicator
Illuminates when modulator is powered.
 - B. Channel Indicator
Shows selected channel.
 - C. Programming Mode LED
Illuminates when the modulator is in the programming mode.
 - D. Select Button
Places the modulator into programming mode.
 - E. Channel Up Button
Increments the modulators channel when in programming mode.
 - F. Channel Down Button
Decrements the modulators channel when in programming mode.

Rear Panel Description

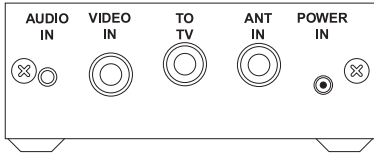


Figure 2

- 2. Rear Panel Descriptions
 - A. AUDIO IN
Stereo 3.5mm input that accepts line level audio.
 - B. VIDEO IN
RCA jack that accepts base band video (composite video).
 - C. TO TV
“F” connector that outputs modulated signal.
 - D. ANTENNA INPUT
Input to combine additional modulated source.
 - E. POWER INPUT
Power supply input.

Installation Cont.

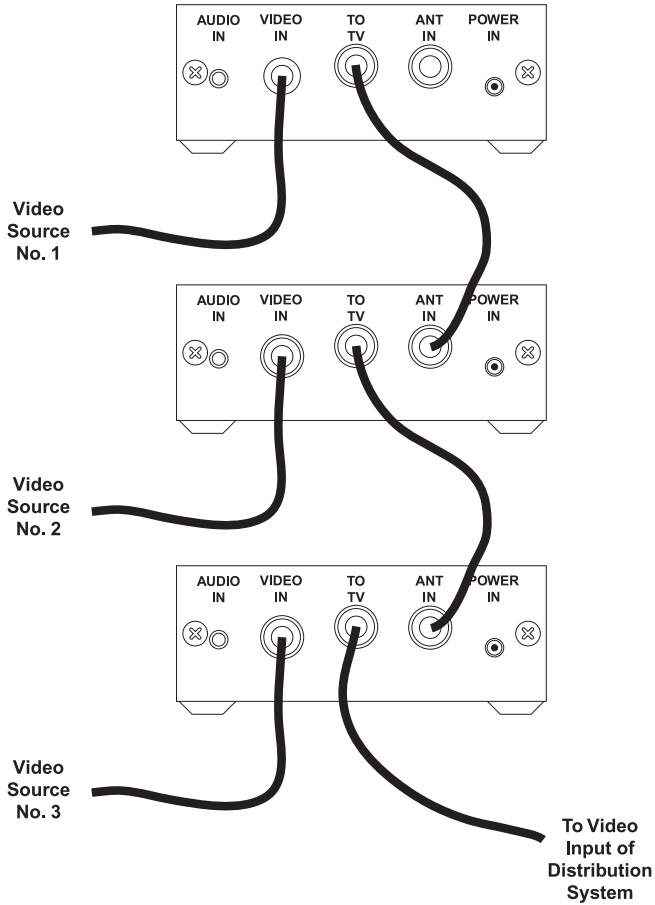


Figure 5

Installation Cont.

THIS INSTALLATION ASSUMES NO NOTCH OR LOW PASS FILTERING IS NECESSARY:

- F. Switching between Cable and UHF
No switching is necessary within the modulator. The TV tuner will have to be set to "AIR" in order to receive UHF channels. To view cable channels, set the tuner to cable.
- G. Select the modulators channel
 1. Use a blunt object to depress the SELECT, CHANNEL UP and CHANNEL DOWN buttons.
 2. Depress the SELECT button for approximately two (2) seconds until the programming LED starts to flash.
 3. Depress the CHANNEL UP button until the desired channel is reached. If you go past the channel, use the CHANNEL DOWN button.
 4. When the desired channel is selected, either wait about six (6) seconds for the channel to be accepted automatically or depress the SELECT button again to enter it.
- H. Using multiple modulators
 1. If the modulators are in different locations, ensure minimum channel separation as listed previously.
 2. If in the same location (such as mounted in an OnQ Enclosure with the Modulator Mounting Bracket), use the ANTENNA IN and the OUT TO TV to connect them in a series. This will negate the need to use a splitter/combiner to sum the modulator outputs together. **Refer to Figure 5.**

Installation

- 3. Installation
 - A. Modular Installation
Determine orientation - Is the modulator to be used as a standalone (set-top) or panel mounted (OnQ Enclosure) device?

If you are modulating a source (i.e. Satellite dish) that is located in an area away from the OnQ Enclosure, then apply the supplied rubber feet and use in the set top orientation. If you are modulating a device that is near the enclosure or run to the enclosure (i.e. base band video from a front door camera), then use the OnQ Modulator Mounting Plate, P/N 364457-01, to install the modulator into the enclosure.

The Modulator Mounting Plate can accommodate up to three (3) OnQ Modulators, P/N 364458-01. Refer to Mounting Plate instructions for details.
 - B. Set-Top Installation
 1. Apply the supplied rubber feet to bottom of modulator.
 2. Insert one end of the supplied RCA video cable into the source devices video output and the other end into the modulator's "VIDEO IN" input.
 3. Insert the RCA connectors (left & right) of the audio adapter cable into the source devices audio output and the 3.5mm adapter into the modulator's "AUDIO IN" input.
 4. Insert the adapter end of the power supply into the modulator's "POWER IN" input jack and the transformer into the 120VAC receptacle.

Installation Cont.

4. Channel Programming Steps

A. Explanation of the seven (7) segment LED display.

Refer to Figure 3

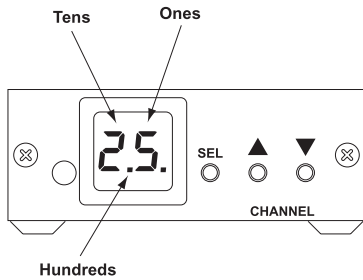
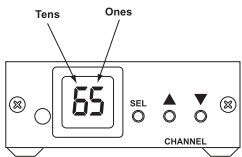


Figure 3

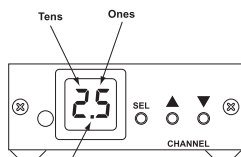
This modulator has a standard cable channel range from 65 to 135*. Since the modulator only has two (2) seven (7) segment LED's, the "hundreds" position is represented via a "dot" located between the digits.

Figure 4 shows examples of how channels would be displayed:

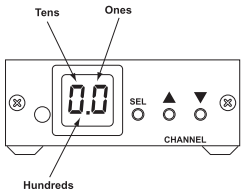


Channel 65

Figure 4



Channel 125



Channel 100

* and UHF 14-78

Installation Cont.

B. Note on Available Cable Channels

This modulator has a range of channels 65 to 135; however, channels 95 thru 99 are NOT available. When scrolling through channel selections, the modulator will jump from channel 94 to 100.

C. Low Pass and Notch Filters

In some instances low pass filters might be needed to "create" space for modulation when there are no available frequency's within the cable television system. In other applications, such as incorporating this modulator into a digital cable system, a low pass filter, as well as a channel 2-3 notch filter, "cable box work-a-round", may be needed. OnQ offers select low pass filters: a 560MHz, channel 80 and up (P/N 364456-02) and a 750MHz, channel 117 and up (P/N 364456-03), as well as, a channel 2-4 notch filter (P/N 364456-01). These filters include an instruction sheet that shows how to implement into the video system.

D. Attenuators

In some instances the output level of the modulator may have to be reduced or "attenuated". Too strong of an output can cause distortion of modulated channels and could affect local cable distribution. OnQ offers two (2) attenuators: a 3dB (P/N 364459-01) and a 6dB (P/N 364459-02) to reduce the output level. Attenuators can also be combined to create unique combinations.

E. Channel Separation

Adjacent channels interfere with each other; a minimum of one (1) channel separation must be maintained between modulators if more than one is used. i.e. First modulator is set to channel 65, second set to channel 67 or first 100 second 102.