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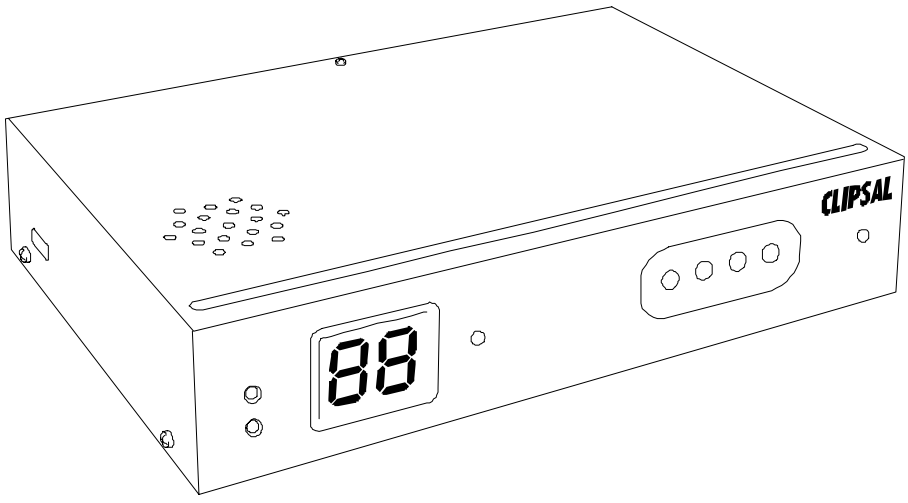
CLIPSAL StarServe™ Networking Your Home

StarServe Contractor Series Quad Channel Video Modulator, with IR

Installation Instructions

8074VMPIR



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1.0 Product Range

8074VMPIR StarServe Contractor Series Quad Channel Video Modulator, with IR
E8074VMPIR StarServe Contractor Series Quad Channel Video Modulator, with IR (Power Supply Not Included)

2.0 Description

The 8074VMPIR StarServe Contractor Series Video Modulator is a multi-channel modulator unit, housed in a set top box. The 8074VMPIR unit incorporates infrared output ports designed to be used in conjunction with other infrared accessories in the StarServe product range.

The unit comprises multiple digitally tuned video modulators that convert any baseband video and audio signal to a user-selected UHF channel. An internal quartz crystal reference oscillator and PLL circuitry ensure drift-free performance. The user selects the output frequency (channel) using the “SELECT” button to choose which modulator and the “UP” and “DOWN” button to enter the number of the desired channel. Any TV connected to the output via coax can receive the signals, when the TV is tuned to the proper channel.

- 8074VMPIR features four inputs for DVD, VCR, etc.
- Built-in 5-volt IR engine
- Connections for IR emitters
- 25dBmV output level
- Push button programming
- Tuning range: UHF 21-69
- Loop-through termination capability for a local monitor or VCR
- FCC Part 15 B compliant

3.0 Features

Set Top Modulator

The 8074VMPIR is a digital modulator, is frequency-agile and installer friendly. It has push-button programming for setting the desired channel. Additionally it provides an output signal level of 25dBmV.

Built in IR Control

The 8074VMPIR modulator has a 5-volt IR engine and connections for IR emitters. When used with an 8073/8VHPIR StarServe Video Hub, the set top modulator unit allows remote TV locations to have IR control of connected video components like DVDs, VCRs and satellite receivers.

Quad Modulators

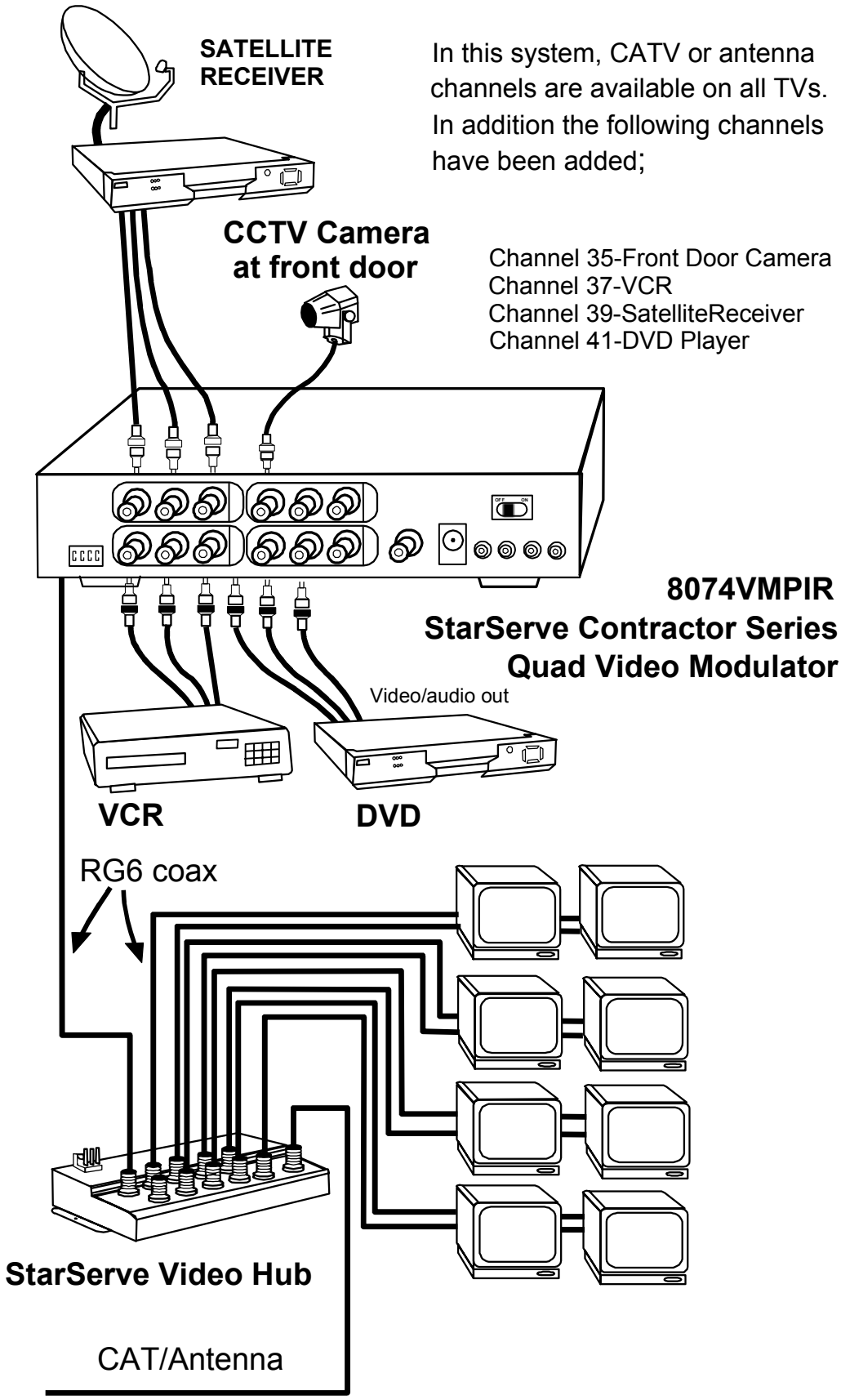
The model 8074VMPIR is a four-channel modulator. The model outputs on a single coax to a StarServe distribution system, such as the 8073/8VHPIR Video Hub.

Loop-Through Capability

All StarServe Video Modulators offer loop-through features. This set top modulator unit incorporates Jumper settings located on the back of each unit, which are terminated at 75ohm. When the terminator is removed, composite/baseband video input signals can be looped to a local monitor or VCR.

4.0 Installation Instructions

Sample System Diagram

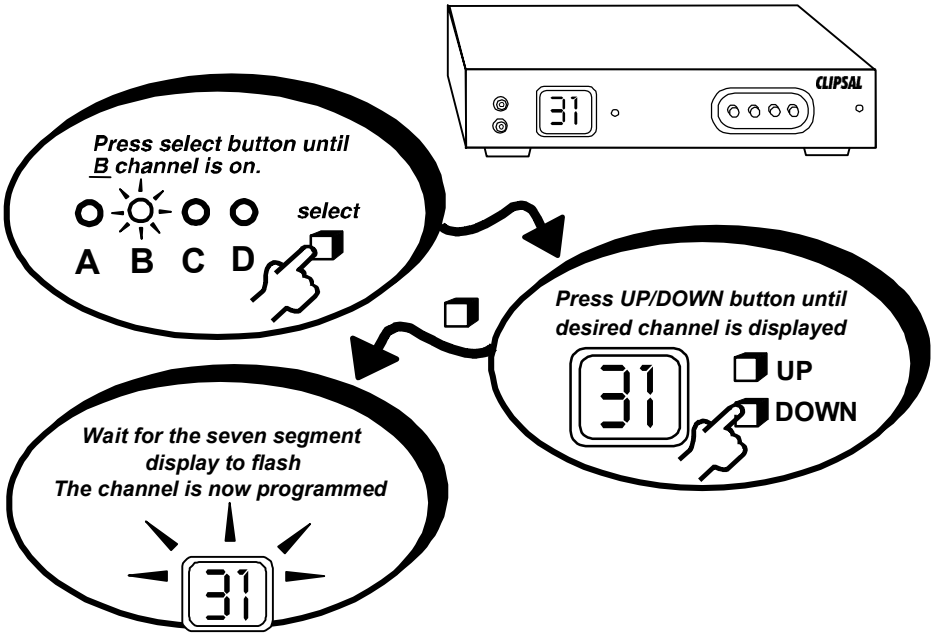


5.0 Programming Requirements

5.1 Channel Setup

To program a new modulator channel, first press the “Select” push button to choose which modulator to change. Then program the new channel using the “Up” and “Down” push buttons until the desired number is displayed on the seven-segment display.
This new channel should be an unused channel. It should have no interference or trace of a picture – just “snow”. There must also be one unused channel below the selected channel to avoid interference. Below is a simple step-by-step example of how to program the unit.

Example 1: To program modulator B to channel 31:



5.2 Channel Selection Guide

PAL AUS				
Channel Number	**Frequency (MHz)**		**Channel Number**	**Frequency (MHz)**
28	527.25		48	667.25
29	534.25		49	674.25
30	541.25		50	681.25
31	548.25		51	688.25
32	555.25		52	695.25
33	562.25		53	702.25
34	569.25		54	709.25
35	576.25		55	716.25
36	583.25		56	723.25
37	590.25		57	730.25
38	597.25		58	737.25
39	604.25		59	744.25
40	611.25		60	751.25
41	618.25		61	758.25
42	625.25		62	765.25
43	632.25		63	772.25
44	639.25		64	779.25
45	646.25		65	786.25
46	653.25		66	793.25
47	660.25		67	800.25

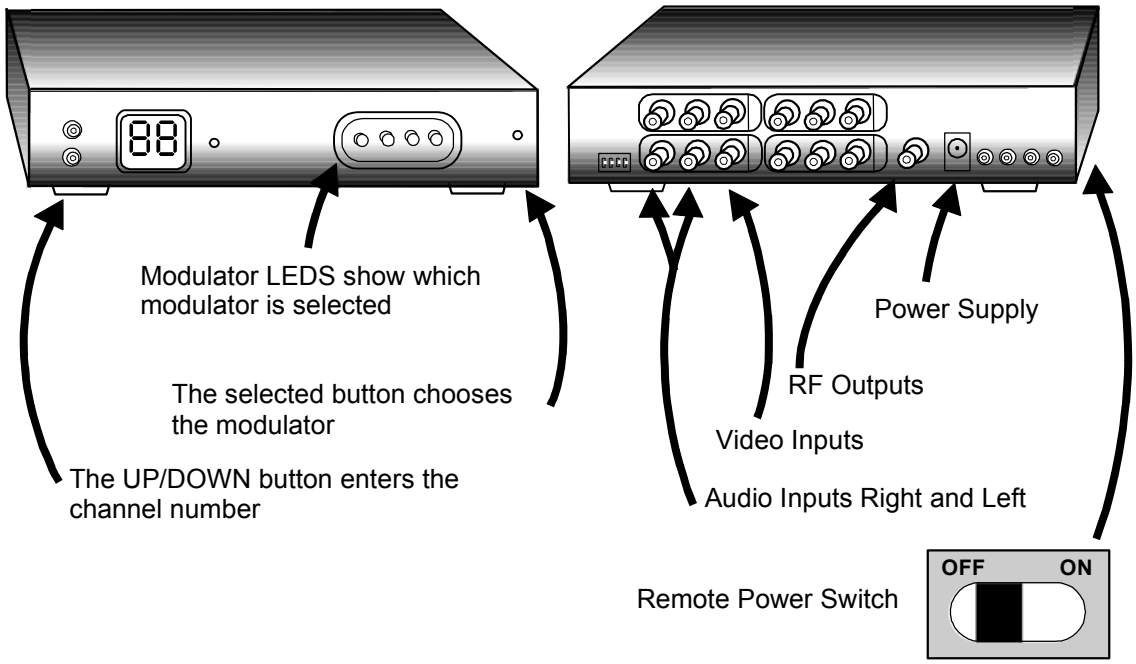
5.3 Additional Information

Item	Description
Valid Channels	21-69 UHF Channels
Channel Spacing	Skip at least one number between channels Channels 32 and 34: OK Channels 32 and 33: NOT VALID

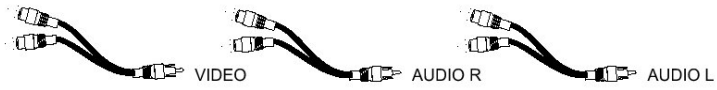
Please Note:
Channels 20 through 27 are available on the 8074VMPIR StarServe modulator, however these channels are not recommended for general use. Interference with local cable operator channel allocations may be experienced when using these frequency settings.

6.0 Loop-Through Input Termination Settings

For each channel, remove the Jumper located on the side of the unit for loop through input.



RCA Y-Lead Adaptors may be used on each input channel, as shown below.



7.0 Troubleshooting

Symptoms	Remedy
No picture …	Check that the TV and the modulator are tuned to the same channel. For example, if the modulator is broadcasting on UHF channel 16, make sure the TV is on UHF 16 rather than CATV 16. UHF 16 and CATV 16 are at different frequencies.
A weak StarServe UHF channel …	If the TV has a separate UHF input, be sure that it is connected.
Herringbone interference on modulator channel (diagonal lines) …	You may have chosen a channel number that is not completely vacant. Distant UHF stations may not be watchable, but will cause interference if you try to create a new channel at the same frequency. Also, cable companies often have extra signals where there should be none. Try moving the modulator channel to another number. You may have to add a low pass filter to remove the cable company noise. If the filter does not work, try adding a DC-block to remove common mode interference.
Herringbone interference on many channels, including modulated channel (disappears when you remove the CATV/antenna feed) …	The RF amplifier can be overloaded by abnormally strong signals. Often, you can cure the problem with a simple attenuator. Use a variable attenuator and try to find a signal level where the interference just disappears. Sometimes, the problem is one station is far stronger than the rest; In this case, attenuating all of the signals with a simple attenuator may cause the desired stations to be weak (snowy). You must reduce the strength of the only offending station. A common FM trap will help if the problem is a nearby FM tower. If the problem is a nearby TV station, often the station management can provide suitable filters.
Audio volume is low …	The left and right audio inputs are combined for monaural. For proper audio level, both right and left inputs must be used. If you have a mono source, connect it to both right and left inputs using an RCA ‘Y’ connector.
Cross-Channel Interference (Ghosting)	You may have 2 or more modulator channels (A, B, C, D) set to the same channel frequency. Individually select each modulator channel and ensure there is at least a 2 channels spacing between each modulator.

8.0 Product Specifications

Catalogue No.		8074VMPIR
Inputs	Video	1V p-p @ 75Ω
	Video Termination (switch selectable)	75Ω in normal mode (NORM) >1MΩ in loop through mode (LOOP)
	Audio	300mVp-p
		L & R inputs combined for monaural
	Connector Type	4 x 3 x RCA
Video Performance	Differential Gain	3-5%
	Differential Phase	<4º
	Signal/Noise	54dB
RF Output	Modulation	PAL (AUS)
	Standard	UHF
	Channel Ranges	21-69
	Output Level	+25 dBmV (+85dBuV)
	IM Distortion	-55dBC
	Alternate Channel	-45dBC @ 12MHz
	Connector Type	1 x F-Type
Power Supply (Not supplied with E-Series variant)	Model Number	8074VMPIR
	Power Supply Model	8050P12/1000
	Output Current	1A (900mA min)
	Output Voltage	12VDC REGULATED
	Input Power	240VAC / 50Hz
Mechanical Details	Dimensions	192 x 135 x 39mm (LxWxD)
	Shipping Weight	2kg
	Operating Temperature	0 – 50°C
	Operating Humidity	10 – 90% RH
Specifications typical @ 25ºC ± 5ºC		
No user serviceable parts inside.		

DECLARATION OF CONFORMITY
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

Installation Requirements:
FCC classifies this product under part 15 of its rules as a “television interface device”. Systems designed using television interface devices have the following legal requirements:

1) The modulated channel signal strength may not exceed 15.56dBmV at any television. *Federal Regulation 47CFR15.115(b)(1)(i).*
2) If an antenna is used in the system, the modulated channel signal strength may not exceed –51dBmV at the antenna input port. *Federal Regulation 47CFR15.115(c)(4).*

The system you design must comply with these regulations. As the installer, you are responsible. The easiest way to be fully compliant is to use a pre-configured StarServe panel. StarServe panels have the necessary isolation from the modulator input ports to the antenna input port and gain characteristic from the modulator input ports to the television output ports. These features will make your modulator comply with the above requirements.

Further Information
For further information about Clipsal StarServe, please consult the documentation supplied. Further assistance can be obtained as follows:

- **StarServe Installers Guide**
  A printed booklet containing detailed information for the installer regarding StarServe system design.

- **Technical Support and Troubleshooting**
  For further assistance in using Clipsal StarServe, please consult your nearest Clipsal Integrated Systems Sales Representative or Technical Support Officer.

Technical Support Hotline	**1300 722 247 (Cost 25c per Call)**
Technical Support Email	**techsupport.cis@clipsal.com.au**
Sales Support Email	**sales.cis@clipsal.com.au**
Clipsal Integrated Systems Website	**clipsal.com/cis**

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