



MATV DATA

Master antenna television is a system whereby one antenna is used to deliver TV signals to a number of outlets via a distribution network. Systems like this can be found in nightclubs, hotels, schools etc. In fact anywhere a number of TV outlets need access to one signal.

A MATV installation eliminates the need for a number of antennas by using a series of amplifiers, splitters, couplers and a host of other equipment.

It is important to note that with a system like this there will be losses in signal strength. Any component which the signal passes through will generate some form of loss. This can be calculated and accounted for by using the right equipment.

There are a number of terms relevant to this field. A brief explanation of some of the more common ones follows. There are of course many other components involved in the make up of a MATV system.

Attenuation: This is expressed in Decibels(dB) and refers to the loss or reduction in signal strength.

Gain: Expressed in dB, this is the increase in amplification of a signals amplitude.

Head End: This refers to the antenna end of the system.

Insertion loss: This is the loss calculated at a termination point.

Through loss: This is the loss experienced as a signal passes through a device. Also referred to as insertion loss.

Cable loss: The loss experienced when a signal passes through cable.

Terminated load: This is where the signal is terminated so as to eliminate feedback into the system.

F-Type Connector: A very common connector used with 75Ω cable. 75Ω is used for MATV installations.

Amplifier: As the name suggests, this is used to amplify the signal. Amplifiers can also be fitted with splitters.

Splitter : A device used to split the signal into even multiple paths.

Coaxial cable: There are a number of cable types suited to MATV. The most common domestic type is RG59 which is very affordable. RG6 offers better loss performance and is used in both commercial and domestic installations. RG11 is a thicker cable with increased shielding. This should be used for long runs where signal loss is critical.

Of course the above is only a very brief outline of MATV and we suggest seeking professional advice when installing a system.

TV CHANNEL CARRIER FREQUENCIES

- Ch. 0-2 VHF Band I
- Ch. 3-5 VHF Band II
- Ch. 5A-11 VHF Band III
- Ch. 28-35 UHF Band IV
- Ch. 39-69 UHF Band V

Ch	MHz
0	45-52
1	56-63
2	63-70
3	85-92
4	94-101
5	101-108
5A	137-144
6	174-181
7	181-188
8	188-195
9	195-202
9A	202-209
10	208-215 (superseded)
10	209-216 (current)
11	215-222 (superseded)
11	216-223 (current)
12	223-230
28	526-533
29	533-540
30	540-547
31	547-554
32	554-561
33	561-568
34	568-575
35	575-582
36	582-589
37	589-596
38	596-603
39	603-610
40	610-617
41	617-624
42	624-631
43	631-638
44	638-645
45	645-652
46	652-659
47	659-666
48	666-673
49	673-680
50	680-687
51	687-694
52	694-701
53	701-708
54	708-715
55	715-722
56	722-729
57	729-736
58	736-743
59	742-750
60	750-757
61	757-764
62	764-771
63	771-778
64	778-785
65	785-792
66	792-799
67	799-806
68	806-813
69	813-820

TELEVISION CHANNELS

For both digital and analog television signals the bandwidth for each individual channel is 7MHz. Channels are allocated on the digital band using the same allocation system as the analog band.

However, not all of these channels will be used by digital television. See table below for an explanation of Australian channel allocations.

VHF Band I	Channels 0,1 and 2	Not suitable for digital broadcasting transmissions as these are prone to interference from electrical impulses.
VHF Band II	Channels 3,4 and 5	Used for FM radio. No television services planned on this band.
VHF Band III	Channels 5A-12	Suitable for digital transmissions, however no new services in Australia will be planned using channel 5A as it has been internationally allocated to other services, including low earth orbiting satellites.
UHF Band IV	Channels 28-35	Suitable for digital transmissions
UHF Band V	Channels 36-69	Suitable for digital transmissions

FOR FURTHER INFORMATION SEE: www.aba.gov.au