

## STANDARD COMMUNICATIONS CONTRACT WARRANTY AGAINST DEFECTS

This warranty against defects is given by Standard Communications Pty Ltd ACN 000 346 814 (We, us, our or GME). Our contact details are set out in clause 2.7. This warranty statement only applies to products purchased in Australia. Please contact your local GME distributor for products sold outside of Australia. Local distributor details at [www.gme.net.au/export](http://www.gme.net.au/export).

### 1. Consumer guarantees

- 1.1 Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
- 1.2 To the extent we are able, we exclude all other conditions, warranties and obligations which would otherwise be implied.

### 2. Warranty against defects

- 2.1 This warranty is in addition to and does not limit, exclude or restrict your rights under the Competition and Consumer Act 2010 (Australia) or any other mandatory protection laws that may apply.
- 2.2 We warrant our goods to be free from defects in materials and workmanship for the warranty period (see warranty table) from the date of original sale (or another period we agree to in writing). Subject to our obligations under clause 1.2, we will at our option, either repair or replace goods which we are satisfied are defective. We warrant any replacement parts for the remainder of the period of warranty for the goods into which they are incorporated.
- 2.3 To the extent permitted by law, our sole liability for breach of a condition, warranty or other obligation implied by law is limited
  - (a) in the case of goods we supply, to any one of the following as we decide -
    - (i) the replacement of the goods or the supply of equivalent goods;
    - (ii) the repair of the goods;
    - (iii) the cost of repairing the goods or of acquiring equivalent goods;
  - (b) in the case of services we supply, to any one of the following as we decide -
    - (i) the supplying of the services again;
    - (ii) the cost of having the services supplied again.
- 2.4 For repairs outside the warranty period, we warrant our repairs to be free from defects in materials and workmanship for three months from the date of the original repair. We agree to re-repair or replace (at our option) any materials or workmanship which we are satisfied are defective.
- 2.5 We warrant that we will perform services with reasonable care and skill and agree to investigate any complaint regarding our services made in good faith. If we are satisfied that the complaint is justified, and as our sole liability to you under

this warranty (to the extent permitted at law), we agree to supply those services again at no extra charge to you.

- 2.6 To make a warranty claim you must before the end of the applicable warranty period (see warranty table), at your own cost, return the goods you allege are defective, provide written details of the defect, and give us an original or copy of the sales invoice or some other evidence showing details of the transaction.
- 2.7 Send your claim to:  
Standard Communications Pty Ltd.  
PO Box 96, Winston Hills, NSW 2153.  
Tel: (02) 8867 6000, Fax: (02) 8867 6199  
Email: [servadmin@gme.net.au](mailto:servadmin@gme.net.au)
- 2.8 If we determine that your goods are defective, we will pay for the cost of returning the repaired or replaced goods to you, and reimburse you for your reasonable expenses of sending your warranty claim to us.

### 3. What this warranty does not cover

- 3.1 This warranty will not apply in relation to:
  - (a) goods modified or altered in any way;
  - (b) defects and damage caused by use with non Standard Communications products;
  - (c) repairs performed other than by our authorised representative;
  - (d) defects or damage resulting from misuse, accident, impact or neglect;
  - (e) goods improperly installed or used in a manner contrary to the relevant instruction manual; or
  - (f) goods where the serial number has been removed or made illegible.

### 4. Warranty period

- 4.1 We provide the following warranty on GME and Kingray products. No repair or replacement during the warranty period will renew or extend the warranty period past the period from original date of purchase.

Product Type	Warranty Period
Kingray amplifiers, modulators, diplexers and filters, Kingray plug pack power supplies, Kingray Professional rack mount products.	3 years



1300 463 463 [kingray.net.au](http://kingray.net.au)

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Drawing No: 41773-9 Part No: 310194

## INSTALLATION MANUAL

# Kingray

Specialists in TV signal amplification

## MD100VS (44-470 MHz) MD100US (470-860 MHz)

### A2 STEREO/DOUBLE SIDEBAND MODULATORS

Optimised for both digital and analogue TV signal amplification.

Thank you for selecting an Australian designed and built F Type masthead amplifier.

The MD100VS/US are double sideband Phase Locked Loop (PLL) Stereo Modulators. They feature input AV level adjustments, high output with gain control, internal test pattern function and Mono Output (see left).

### INSTALLATION

The MD100VS/US are intended for indoor use. The modulator/s may be rack mounted via the KR001 or on a flat surface with screws provided. An earth lug has been included if required.

### CABLE CONNECTIONS

All input connections (video, left and right audio) are RCA. The RF Output is an 'F' Type Connector.

### POWERING OPTIONS

The supply voltage (12-18 V DC) is supplied by the separately purchased PSK18S or the PSK18KR for rack mounted or multiple powered units. (ADC322 or ADC325 power splitter cables may be used if 2 or more units are to be installed without the rack). The products may also be line powered if required via a PIK01.

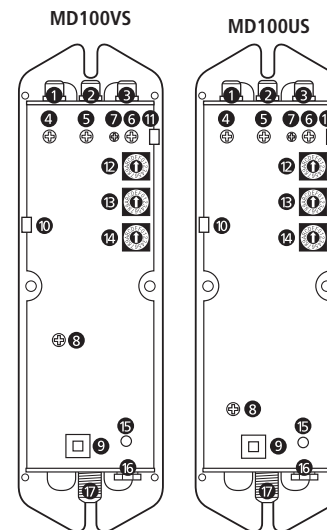
### ADJUSTMENTS

#### 1. Output Frequency Selection

Double sideband output requires ONE full 7 MHz channel spacing below the selected frequency to be left vacant.

e.g. Ch. 40 610-617 MHz - Vacant  
Ch. 41 617-624 MHz - Selected  
Ch. 42 624-631 MHz - Vacant  
Ch. 43 631-638 MHz - Selected

Select frequency required from supplied information on reverse side. Adjust Dip Switches per example shown on the reverse side.



- |  |                              |
|--|------------------------------|
| 01. Video Input                          | 08. 20 dB Gain Control       |
| 02. Left Audio Channel Input             | 09. 20 dB Attenuation Switch |
| 03. Right Audio Channel Input            | 10. Stereo or Mono Switch    |
| 04. Video Level Adjustment               | 11. Test Pattern Switch      |
| 05. Left Channel Audio Level Adjustment  | 12. SW3                      |
| 06. Right Channel Audio Level Adjustment | 13. SW2                      |
| 07. Non Adjustable Factory Preset        | 14. SW1                      |
|  | 15. Power LED                |
|  | 16. DC Jack                  |
|  | 17. RF Output                |

## 2. Video Input Level Adjustment

Factory Preset for 1 V pp.

**CAUTION:** Incorrect adjustment of this control will cause video distortion. Adjustment should only be undertaken with the aid of a pattern generator and oscilloscope.

## 3. Audio Input Level Adjustment

Factory preset for 0.7 V RMS audio frequency input level. Adjustment required if audio levels

are loud or distorted. The Stereo/Mono switch is preset to stereo.

When switching to mono the audio Input can be placed in either the left or right channel.

## 4. RF Output Level Adjustment

Nominal Continuous Output between 63-103 dBµV 20 dB Switch 20 dB Gain Control

All channels in a rack system are to be set at the same output level to eliminate intermodulation effects.

## SPECIFICATIONS

PARAMETER	SPECIFICATION
Frequency Range	MD100VS (44 - 470 MHz) MD100US (470 - 860 MHz)

### RF Performance

Output Level	63-103 dBµV Adjustable
Output Impedance	75Ω 'F' Socket
Output Return Loss	> 10 dB*
Frequency Step Size	250 kHz
Frequency Control	PLL Synthesiser
Frequency Stability	20 ppm, -10 to +60°C
Spurious Outputs	< -55 dBc
Modulation Types	PAL B.G.H. Double Sideband
FM Deviations	10 kHz on mono carrier @ 245 mV RMS 1 kHz Audio Right Channel Input

### Video Performance

Input Impedance	75Ω RCA Socket
Input Level	1 Vpp (Adj. 0.8-1.2 Vpp)
Bandwidth	0 - 5 MHz

### Audio Performance (Mono Option)

Input Impedance	7.5 KΩ RCA Socket
Input Level	2 V Peak (Adj. 0-2 V)
Bandwidth	40 Hz to 15 kHz
Distortion	< 1%
General Performance	
Supply Voltage	12 - 18 V DC
Current Consumption	MD100VS- 200 mA/180 mA for mono option MD100US - 170 mA/150 mA for mono option
Racking	KR001

All values are typical unless otherwise specified.

**NOTE:** Output Return Loss measured with Attenuation Switch in.

## OUTPUT CHANNEL SELECTION TABLE

Extra frequencies available on our website  
[www.kingray.net.au](http://www.kingray.net.au)

**NOTE:** Double Sideband Output requires one full channel space between system output frequencies.

	DATA FOR AUSTRALIA OUTPUT CHANNELS			DATA FOR NEW ZEALAND OUTPUT CHANNELS			DATA FOR CCIR OUTPUT CHANNELS		
	SW3	SW2	SW1	SW3	SW2	SW1	SW3	SW2	SW1
BI 0	(46.25 MHz)	0	B	(45.25 MHz)	0	B	(46.25 MHz)	0	B
1	(57.25 MHz)	0	E	(55.25 MHz)	0	F	(56.25 MHz)	0	F
2	(64.25 MHz)	1	O	(62.25 MHz)	1	O	(62.25 MHz)	1	O
BIII 3	(86.25 MHz)	1	5	(82.25 MHz)	2	B	(82.25 MHz)	2	B
4	(95.25 MHz)	1	7	(92.25 MHz)	2	F	(92.25 MHz)	2	F
5	(102.25 MHz)	1	9	(100.25 MHz)	2	D	(100.25 MHz)	2	D
5 Channels 51	(105.25 MHz)	1	A	(103.25 MHz)	1	C	(103.25 MHz)	1	C
52	(112.25 MHz)	1	A	(110.25 MHz)	1	C	(110.25 MHz)	1	C
53	(119.25 MHz)	1	D	(117.25 MHz)	1	D	(117.25 MHz)	1	D
54	(126.25 MHz)	2	1	(124.25 MHz)	2	1	(124.25 MHz)	2	1
55	(133.25 MHz)	2	3	(131.25 MHz)	2	3	(131.25 MHz)	2	3
56	(140.25 MHz)	2	4	(138.25 MHz)	2	4	(138.25 MHz)	2	4
57	(147.25 MHz)	2	6	(145.25 MHz)	2	6	(145.25 MHz)	2	6
58	(154.25 MHz)	2	8	(152.25 MHz)	2	8	(152.25 MHz)	2	8
59	(161.25 MHz)	2	8	(159.25 MHz)	2	8	(159.25 MHz)	2	8
510	(168.25 MHz)	2	A	(166.25 MHz)	2	A	(166.25 MHz)	2	A
BIII 5A	(138.25 MHz)	2	2	(136.25 MHz)	2	2	(136.25 MHz)	2	2
5B	(175.25 MHz)	2	9	(173.25 MHz)	2	9	(173.25 MHz)	2	9
6	(182.25 MHz)	2	9	(180.25 MHz)	2	9	(180.25 MHz)	2	9
7	(189.25 MHz)	2	F	(187.25 MHz)	2	F	(187.25 MHz)	2	F
8	(196.25 MHz)	2	D	(194.25 MHz)	2	D	(194.25 MHz)	2	D
9	(196.25 MHz)	3	4	(196.25 MHz)	3	4	(196.25 MHz)	3	4
10	(209.25 MHz)	3	4	(209.25 MHz)	3	4	(209.25 MHz)	3	4
11	(216.25 MHz)	3	6	(216.25 MHz)	3	6	(216.25 MHz)	3	6
12	(224.25 MHz)	3	8	(224.25 MHz)	3	8	(224.25 MHz)	3	8
Hyperband 511	(231.25 MHz)	3	9	(231.25 MHz)	3	9	(231.25 MHz)	3	9
512	(238.25 MHz)	3	B	(238.25 MHz)	3	B	(238.25 MHz)	3	B
513	(245.25 MHz)	3	D	(245.25 MHz)	3	D	(245.25 MHz)	3	D
514	(252.25 MHz)	3	F	(252.25 MHz)	3	F	(252.25 MHz)	3	F
515	(259.25 MHz)	4	0	(259.25 MHz)	4	0	(259.25 MHz)	4	0
516	(266.25 MHz)	4	2	(266.25 MHz)	4	2	(266.25 MHz)	4	2
517	(273.25 MHz)	4	4	(273.25 MHz)	4	4	(273.25 MHz)	4	4
518	(280.25 MHz)	4	6	(280.25 MHz)	4	6	(280.25 MHz)	4	6
519	(287.25 MHz)	4	7	(287.25 MHz)	4	7	(287.25 MHz)	4	7
520	(294.25 MHz)	4	9	(294.25 MHz)	4	9	(294.25 MHz)	4	9
BI 1	(45.25 MHz)	0	B	(45.25 MHz)	0	B	(45.25 MHz)	0	B
2	(55.25 MHz)	0	D	(55.25 MHz)	0	D	(55.25 MHz)	0	D
3	(62.25 MHz)	0	F	(62.25 MHz)	0	F	(62.25 MHz)	0	F
BIII 4	(175.25 MHz)	2	B	(175.25 MHz)	2	B	(175.25 MHz)	2	B
5	(182.25 MHz)	2	F	(182.25 MHz)	2	F	(182.25 MHz)	2	F
6	(189.25 MHz)	2	D	(189.25 MHz)	2	D	(189.25 MHz)	2	D
7	(196.25 MHz)	3	1	(196.25 MHz)	3	1	(196.25 MHz)	3	1
8	(203.25 MHz)	3	2	(203.25 MHz)	3	2	(203.25 MHz)	3	2
9	(210.25 MHz)	3	4	(210.25 MHz)	3	4	(210.25 MHz)	3	4
10	(217.25 MHz)	3	6	(217.25 MHz)	3	6	(217.25 MHz)	3	6
11	(224.25 MHz)	3	8	(224.25 MHz)	3	8	(224.25 MHz)	3	8
Reserved 21	(671.25 MHz)	7	5	(671.25 MHz)	7	5	(671.25 MHz)	7	5
22	(679.25 MHz)	7	7	(679.25 MHz)	7	7	(679.25 MHz)	7	7
23	(687.25 MHz)	7	9	(687.25 MHz)	7	9	(687.25 MHz)	7	9
24	(695.25 MHz)	7	B	(695.25 MHz)	7	B	(695.25 MHz)	7	B
25	(703.25 MHz)	7	D	(703.25 MHz)	7	D	(703.25 MHz)	7	D
26	(711.25 MHz)	7	F	(711.25 MHz)	7	F	(711.25 MHz)	7	F
BIV 27	(519.25 MHz)	8	1	(519.25 MHz)	8	1	(519.25 MHz)	8	1
28	(527.25 MHz)	8	3	(527.25 MHz)	8	3	(527.25 MHz)	8	3
BI 2	(48.25 MHz)	0	C	(48.25 MHz)	0	C	(48.25 MHz)	0	C
3	(55.25 MHz)	0	D	(55.25 MHz)	0	D	(55.25 MHz)	0	D
4	(62.25 MHz)	0	F	(62.25 MHz)	0	F	(62.25 MHz)	0	F
BIII 5	(175.25 MHz)	2	B	(175.25 MHz)	2	B	(175.25 MHz)	2	B
6	(182.25 MHz)	2	F	(182.25 MHz)	2	F	(182.25 MHz)	2	F
7	(189.25 MHz)	2	D	(189.25 MHz)	2	D	(189.25 MHz)	2	D
8	(196.25 MHz)	3	2	(196.25 MHz)	3	2	(196.25 MHz)	3	2
9	(203.25 MHz)	3	4	(203.25 MHz)	3	4	(203.25 MHz)	3	4
10	(210.25 MHz)	3	6	(210.25 MHz)	3	6	(210.25 MHz)	3	6
11	(217.25 MHz)	3	8	(217.25 MHz)	3	8	(217.25 MHz)	3	8
12	(224.25 MHz)	3	8	(224.25 MHz)	3	8	(224.25 MHz)	3	8
B5 1	(105.25 MHz)	1	A	(105.25 MHz)	1	A	(105.25 MHz)	1	A
2	(112.25 MHz)	1	C	(112.25 MHz)	1	C	(112.25 MHz)	1	C
3	(119.25 MHz)	1	D	(119.25 MHz)	1	D	(119.25 MHz)	1	D
4	(126.25 MHz)	1	F	(126.25 MHz)	1	F	(126.25 MHz)	1	F
5	(133.25 MHz)	2	1	(133.25 MHz)	2	1	(133.25 MHz)	2	1
6	(140.25 MHz)	2	3	(140.25 MHz)	2	3	(140.25 MHz)	2	3
7	(147.25 MHz)	2	4	(147.25 MHz)	2	4	(147.25 MHz)	2	4
8	(154.25 MHz)	2	6	(154.25 MHz)	2	6	(154.25 MHz)	2	6
9	(161.25 MHz)	2	8	(161.25 MHz)	2	8	(161.25 MHz)	2	8
10	(168.25 MHz)	2	A	(168.25 MHz)	2	A	(168.25 MHz)	2	A
11	(238.25 MHz)	3	9	(238.25 MHz)	3	9	(238.25 MHz)	3	9
12	(245.25 MHz)	3	B	(245.25 MHz)	3	B	(245.25 MHz)	3	B
13	(252.25 MHz)	3	D	(252.25 MHz)	3	D	(252.25 MHz)	3	D
14	(259.25 MHz)	3	F	(259.25 MHz)	3	F	(259.25 MHz)	3	F
15	(266.25 MHz)	4	0	(266.25 MHz)	4	0	(266.25 MHz)	4	0

Example.



SW3 Australian Channel 69  
SW2 SW3-C, SW2-B SW 1-9

**NOTE:** The changes to the switch settings.

**WARNING:** The choice of certain output channel combinations may be affected by local oscillator radiation generated within a television receiver or by outside interference from local AM/FM, TV, pager or two-way radio transmitters.