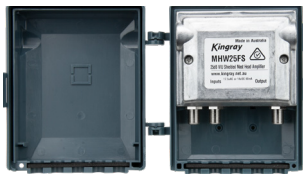
Kingray

Specialist in Digital TV Distribution Solutions

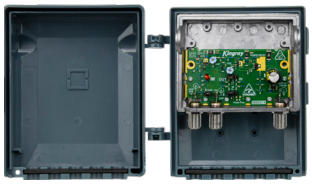
Catalogue 2021

CONTENTS

MASTHEAD AMPLIFIERS



SHIELDED



NON-SHIELDED

All Kingray mastheads have been designed for user friendly installation and peak operating performance for the digital environment of today and well into the future. A masthead amplifier is designed to amplify low level off-air signals, so a very low noise figure is necessary as part of the amplifier design.

The Kingray masthead amplifiers include LTE filtering for protection against the increasing number of 4G/5G LTE transmissions, the wideband and VHF models also include low band filtering. They are available in shielded and non-shielded models, incorporating the latest surface mount technology.

Jumper links make the FM traps switchable in our wideband models. A jumper link has also been used to make the combined or separate input feature selectable, as well as the power pass feature on our UHF models. The masthead amplifiers can be powered by the Kingray 14V DC & 17.5V AC power supplies.

The increased use of surface mount technology has resulted in the ability to produce a smaller PCB with increased reliability and performance. All Kingray mastheads, distribution amplifiers and passive products are HD and 4K compatible.

Kingray

4G LTE Filter

5G Filter

HD Digital Picture Compatible

4K ULTRA HD

LTE – WHAT IS IT?

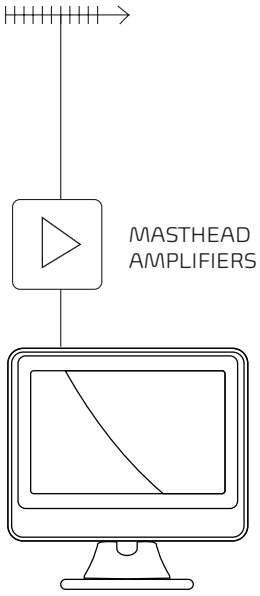
LTE stands for Long Term Evolution and is the name given to the 4G transmissions being used by mobile phone carriers. Transmissions of the 4G LTE services commenced in January 2015.

5G is the next major evolution in mobile network technology & services began in 2019. As with 4G before it, 5G is focused on mobile data. Australian 5G networks will use a combination of technologies & spectrum. 5G runs on similar frequencies to what 4G network uses right now, but on the higher end of the spectrum, currently using 3.5GHz spectrum for their 5G networks.

BE PROTECTED

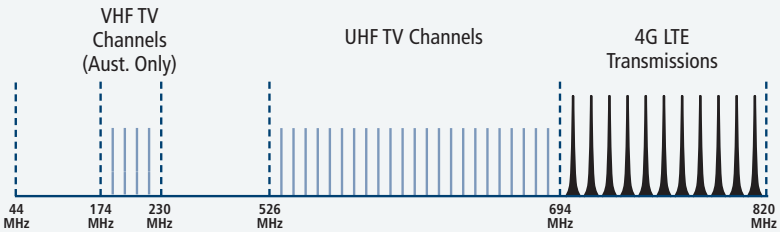
Kingray masthead amplifiers are engineered to maximise interference rejection of 4G LTE & 5G signals. The range includes both wideband, VHF and UHF only models where all services above 694 MHz are filtered and therefore minimising interference.

In addition to filtering mobile phone frequencies in the masthead amplifiers, we have also included low band filtering to eliminate interfering services below 174 MHz.



CURRENT TV CHANNELS

DIGITAL SPECTRUM



VHF MASTHEAD AMPLIFIERS

The MHV25F is designed for todays digital television environment and specifically for areas where there is VHF transmission only. The Band 1, 2, 4 and 5 filtering ensure only channels 6 to 12 are amplified, attenuating unwanted frequencies including those in the LTE band.

MHV25F

MHV25F

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	OUTPUT FIGURE DIN45004B
VHF	174~230	25	1	<2.5dB	N/A	06 or 08 Series	60	N/A	108dBµV

F -Type masthead designed to amplify a VHF antenna.
Available in non-shielded (F) only. Packed without power supply.

VHF & UHF MASTHEAD AMPLIFIERS

The VHF/UHF (combination) masthead amplifiers are designed for today's digital television environment. Bands 1 & 2 are filtered, as are frequencies above 694MHz to reduce LTE interference.

MHW25F

MHW25FS

MHW25F/ MHW25FS

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	OUTPUT FIGURE DIN45004B
VHF	174~230 88~230*	12~15	1, 2 or comb.	<3.5dB	TILT 7~4dB	06 or 08 Series	60	-25dB	108dBµV
UHF	520~694	25		<2.1dB	10dB			N/A	

F -Type masthead designed to amplify separate VHF and UHF antennas or a combined VHF/UHF antenna.
Optional shielded (FS) or non-shielded (F) models available. Packed without power supply.
*** FM Pass option**

MHW25FE

MHW25FE

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	OUTPUT FIGURE DIN45004B
VHF/ UHF	174~694 88~694*	22~25	1	<3dB	10dB	06 or 08	80	-25dB	108dBµV

Single input F -Type masthead designed to amplify either a separate VHF or UHF antenna or a combined VHF/UHF antenna.
Available in non-shielded model only. Packed without power supply.
*** FM Pass option**

MHW35F

MHW35FS

MHW35F/ MHW35FS & MHW35FDP

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	OUTPUT FIGURE DIN45004B
VHF	174~230 88~230*	22~26	1, 2 or comb.	<2dB	TILT 16~12dB	06 or 08	80	-25dB	108dBµV
UHF	520~694	35		<2.5dB	15dB			N/A	

F -Type masthead designed to amplify separate VHF and UHF antennas or a combined VHF/UHF antenna.
Optional shielded (FS) or non-shielded (F) models available. Packed without power supply.
MHW35FDP is non-shielded and includes a PSK06F power supply.
*** FM Pass option**

MHW43FS

MHW43FS

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	OUTPUT FIGURE DIN45004B
VHF	174~230 88~230*	27~35	1, 2 or comb.	<3dB	TILT 16~12dB	06 or 08	80	-25dB	108dBµV
UHF	520~694	43		<2.5dB	10dB			N/A	

F -Type masthead designed to amplify separate VHF and UHF antennas or a combined VHF/UHF antenna.
Available in shielded model only. Packed without power supply.
*** FM Pass option**

UHF MASTHEAD AMPLIFIERS

The Kingray MHU series are UHF masthead amplifiers with the capability to diplex VHF, either from combined or separate VHF and UHF antennas. They are supplied with F connections and are available in shielded and non-shielded models.

MHU25F & MHU25FS

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	PAGER FILTER OPTION	OUTPUT FIGURE DIN45004B
VHF	44~230	-2	1, 2 or comb.	N/A	N/A	06 or 08	60	N/A	N/A	108dBµV
UHF	520~694	25		<2.1dB	10dB			N/A	N/A	

F -Type masthead designed to amplify a UHF antenna and diplex a separate VHF antenna or amplify the UHF component of a combined antenna. Optional shielded (FS) or non-shielded (F) models. Packed without power supply.

MHU25F

MHU25FS

MHU35F & MHU35FS

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FM TRAP OPTION	PAGER FILTER OPTION	OUTPUT FIGURE DIN45004B
VHF	44~230	-2	1, 2 or comb.	N/A	N/A	02, 06, or 08	80	N/A	N/A	108dBµV
UHF	520~694	35		<2.5dB	15dB			N/A	N/A	

F -Type masthead designed to amplify a UHF antenna and diplex a separate VHF antenna or amplify the UHF component of a combined antenna. Optional shielded (FS) or a non-shielded (F) models available. Packed without power supply.

MHU35F

MHU35FS

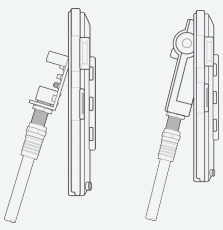
MASTHEAD BOX

MHB001

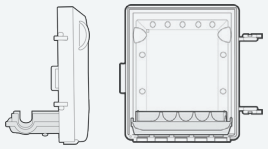
Kingray's trademark 100% weatherproof masthead box.

Available individually to house indoor filters, splitters and outdoor connections.

PCB PIVOTS FROM THE CASE TO ALLOW EASIER ACCESS TO THE CONNECTORS.



MHB001 COVER DESIGNED TO TEMPORARILY HOLD LID FROM SHIELDED MODELS.



BOARD MARKINGS

All separate VHF/ UHF gain controls, filters/ traps are marked on the masthead boards for easy identification.

GAIN CONTROLS

The gain control provides a number of functions depending on the mastheads design, including:

- Flat Gain Response
- Positive Tilt Gain Control

MASTHEAD DISTRIBUTION AMPLIFIERS

The Kingray MDA series provides a very low noise performance (<1.6dB) with a very high output capability of 118dBµV DIN45004B (MDA20 series) in the one amplifier resulting in exceptionally low distortion characteristics. These amplifiers offer outstanding performance as multi-purpose amplifiers in the digital environment.

VHF MASTHEAD DISTRIBUTION AMPLIFIER

MDA15V

MDA15V	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FILTERS	OUTPUT FIGURE DIN45004B
VHF	174~230	15	1	<2.0dB	10dB	06	100	174MHz HP 230MHz LP	113dBµV

F -Type single input non shielded masthead distribution amplifier. Designed to amplify 174~230 MHz.
Packed without power supply. Requires PSK06 or PSK06F.

UHF MASTHEAD DISTRIBUTION AMPLIFIER

MDA15U

MDA15U	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FILTERS	OUTPUT FIGURE DIN45004B
UHF	470~860	15	1	<2.0dB	6dB	06	100	470MHz HP 694MHz LP	113dBµV

F -Type single input non shielded masthead distribution amplifier. Designed to amplify 470~694 MHz.
Packed without power supply. Requires PSK06 or PSK06F.

VHF & UHF MASTHEAD DISTRIBUTION AMPLIFIER

MDA20HT

MDA20HT	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	FILTERS	OUTPUT FIGURE DIN45004B
VHF/ UHF	174~860	19	1	<1.6dB	N/A	06	100	174MHz HP	118dBµV

F -Type single input fully shielded masthead distribution amplifier. Designed to amplify 174~860 MHz.
Packed without power supply. Requires PSK06 or PSK06F.

ISO 9001:2015
AU97\0906
List of certified characteristics available at www.sgs.com

Our ISO9001 accreditation ensures every product is tested to meet or exceed all quality standards prior to packing, enabling fault-free installation every time.

GME remains committed to the research and development of its Kingray products. They are designed and manufactured in our state of the art facility in Sydney, utilising the latest software, RF and CAD techniques.

DOMESTIC & COMMERCIAL AMPLIFIERS

Kingray's terrestrial distribution amplifiers are designed for today's digital television environment.
Our wide range of distribution amplifiers makes it easy to select the ideal product for your application.

KDA20 DOMESTIC SINGLE INPUT/ SINGLE OUTPUT AMPLIFIER

	FREQUENCY (MHz)	MAX. GAIN (dB)	NOISE FIGURE	GAIN CONTROL	INPUTS	OUTPUTS	OPERATING VOLTAGE	OPERATING TEMPERATURE	OUTPUT FIGURE DIN45004B
VHF/ UHF	44~860	20	<3.5dB	10dB	1	1	240V AC	-10~50 degrees C	104dBµV

The KDA20 is VHF/UHF television amplifier with one input and one output. Designed to plug directly into the power point, the KDA20 has the innovative feature of a 240 volt piggyback plug.

KDA20

DW32 VHF/UHF SPLIT BAND DISTRIBUTION AMPLIFIER

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	TEST POINT	OUTPUT FIGURE DIN45004B	FOXTEL IPL NO.
VHF	44~230	26~28	1, 2 or comb	<3.5dB	10dB	12S 18S/F or 06F	150	-30dB	112dBµV	F10055
UHF	470~860	32			10dB					

F -Type distribution amplifier designed for a separate VHF or UHF antenna or a combined antenna via jumper link at the input.
Can be remotely powered to the output.
Packed with a PSK18S DC power supply.

DW32

DW42 VHF/UHF SPLIT BAND DISTRIBUTION AMPLIFIER

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	TEST POINT	OUTPUT FIGURE DIN45004B
VHF	174~300	35~37	1, 2 or comb	<6dB	20dB	12F or 18S/F	300	-30dB	118dBµV
UHF	470~860	40			20dB				

F -Type distribution amplifier designed for a separate VHF or UHF antenna or a combined antenna via switch at the input.
Can be remotely powered to the output.
Packed without power supply.

DW42

DA43 VHF/UHF WIDE BAND DISTRIBUTION AMPLIFIER

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	EQ	TEST POINT	OUTPUT FIGURE DIN45004B	FOXTEL IPL NO.
VHF UHF	44~860	43 Nominal	1	<6dB	20dB	12F or 18S/F	300	-5, -10, -15dB	-30dB	118dBµV	F31091

F -Type distribution amplifier with wideband input.
Can be remotely powered to and through the input.
Packed without a power supply.
Amplifies hyperband.

DA43

SATELLITE DISTRIBUTION AMPLIFIERS

Kingray's satellite distribution amplifiers have been designed to suit today's digital television environment.
The technology used is hybrid bipolar and GaAs, which allows for a greater output capacity, whilst having a lower noise figure. All models have mid stage gain controls for increased performance, flexible powering options and are housed in a full diecast housing.

SAT25S

SAT25S

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	EQ	OUTPUT FIGURE	FOXTEL IPL NO.
SAT	950~2400	25	1 x SAT I.F.	<10dB	0~10dB	PSK18S or PSK18F	110~ 260mA*	0~15dB	112dBuV–35dB IMR	F30948

Single input satellite distribution amplifier, ideal for use in a Foxtel single coax cable multistacker satellite distribution system. Features high output with adjustable gain and equalisation controls.
*Depends on current drain by LNB.
Packed without power supply.

SAT40S

SAT40S

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	POWER SUPPLY	CURRENT (mA)	EQ	OUTPUT FIGURE	FOXTEL IPL NO.
SAT	950~2400	40	1 x SAT I.F.	<10dB	0~20dB	PSK18S or PSK18F	260~ 410mA*	0~15dB	122dBuV–35dB IMR	F30949

Single input satellite distribution amplifier, ideal for use in a Foxtel single coax cable multistacker satellite distribution system. Features high output with adjustable gain and equalisation controls.
*Depends on current drain by LNB.
Packed without power supply.

SMATV DISTRIBUTION AMPLIFIER

The Kingray DSB38F is a super broadband high gain distribution amplifier used in SMATV applications amplifying both terrestrial and satellite television signals.
This amplifier features a combined single input with fully adjustable gain and equalization controls as well as switchable fixed input attenuation for each band.

Includes a -30dB test point and multiple powering and power through options.

DSB38F

DSB38F SUPER BROADBAND AMPLIFIER

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	INPUT ATTENUATION	POWER SUPPLY	CURRENT (mA)	EQ	OUTPUT FIGURE	FOXTEL IPL NO.
TER	47~862	36	1	<10dB	0-10dB	-10dB Selectable	PSK18M or PSK183F	560mA @ 12V DC 370mA @ 18V DC	0~10dB	120dBµV–60dB IMR	F30977
SAT	950~2400	40			0-10dB	-10dB Selectable			0~10dB	122dBµV–35dB IMR	

Packed without power supply.

ACTIVE TAPS

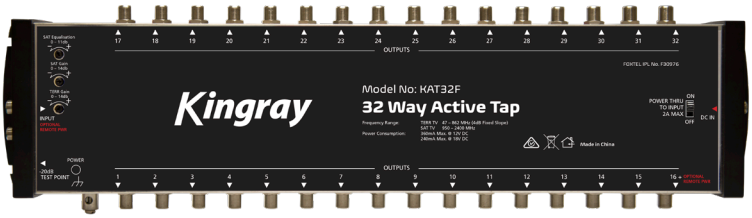
The Kingray Active Taps are used for the distribution of terrestrial and satellite signals in a Multistacker installation.

They feature high output with adjustable gain and equalisation control.

KAT8F

KAT16F

KAT24F



KAT32F

PART NO.			KAT8F	KAT16F	KAT24F	KAT32F
PARAMETERS			**SPECIFICATIONS**			
Frequency Range	Terrestrial (TER)		47~862MHz			
	Satellite (SAT)		950~2400MHz			
Input / Output	TER+SAT		1 x Input / 8 x Taps	1 x Input / 16 x Taps	1 x Input / 24 x Taps	1 x Input / 32 x Taps
DC_IN / GND Post			1 / 1			
Insertion Gain	TER	47 MHz	10dB			
		862 MHz	14dB			
	SAT		14dB		15dB	14dB
Gain ADJ	TER		14dB			
	SAT		14dB			
Slope ADJ	SAT		11dB			
Fixed Slope	TER		4dB			
Out-band Rejection	SAT / TER		37dB			
Output Isolation	TER		30dB			
	SAT		35dB			
Return Loss	SAT / TER		12dB			
Max. Output Power Level	TER (60dBuV IMA3 @ EN60728-5)		96dBµV			
	SAT (35dBuV IMA3 @ EN60728-3)		97dBµV		96dBµV	
DC_IN			2A/12V Optional External PSU			
DC from / to Input			DIP SW CTRL and 2A max.			
Power Source			12VDC/2A @ PSU or Input Port			
Power Consumption			170mA Max.@ 12VDC/ 120mA Max.@ 18VDC	270mA Max.@ 12VDC/ 180mA Max.@ 18VDC	350mA Max.@ 12VDC/ 230mA Max.@ 18VDC	360mA Max.@ 12VDC/ 240mA Max.@ 18VDC
Foxtel IPL No.			F31011	F31010	F31095	F31076

Splitter amplifiers are useful when there is acceptable signal quality to one outlet 'unamplified' but when splitting to two or more outlets, there is insufficient signal. Splitter amplifiers can be used as a distribution amplifier in a small block of units.

Kingray provide a complete range of splitter amplifiers for all applications and they are designed for peak performance for digital terrestrial environments. The characteristics of the components selected provide a very low noise figure, a high output level and high return loss. The SA162F and SA164F is supplied with F connections and F to Belling Lee adaptors.

SA162F

SA162F

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	MAINS	OUTPUT FIGURE DIN45004B
VHF	44~860	12-14	1	<3.5dB	N/A	230~240V AC	100dBµV
UHF		16		<3.5dB	N/A		

F--Type single input 2 Way VHF/UHF splitter amplifier, supplied with adaptors for conversion to Belling Lee connection.

SA164F

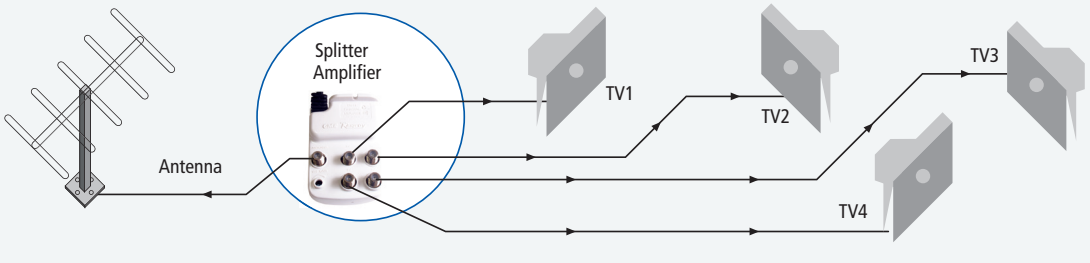
SA164F

	FREQUENCY (MHz)	MAX. GAIN (dB)	INPUTS	NOISE FIGURE	GAIN CONTROL	MAINS	OUTPUT FIGURE DIN45004B
VHF	44~860	12-14	1	<3.5dB	8dB TILT	230~240V AC	100dBµV
UHF		16		<3.5dB	N/A		

F--Type single input 4 Way VHF/UHF splitter amplifier, supplied with adaptors for conversion to Belling Lee connection.

TYPICAL SPLITTER AMPLIFIER INSTALLATION

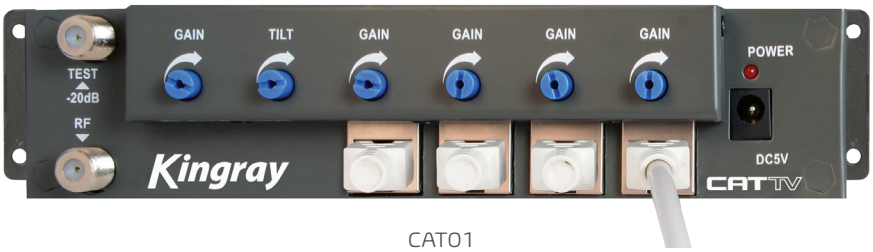
Splitter amplifiers are used when you have enough signal to run one TV outlet but not enough for multiple outlets.



RF DISTRIBUTION OVER ETHERNET CABLE

At the heart of the Kingray CATTV™ system is the CAT01 high output distribution amplifier – capable of supplying quality signal to up to four television receivers.

The CAT01 amplifier incorporates master gain and tilt controls, plus individual gain controls for each outlet, delivering a balanced output level regardless of cable lengths.

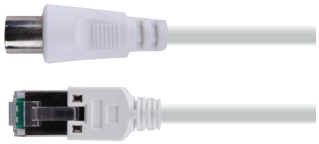


CAT01

CAT01										
FREQUENCY (MHz)	MAX. GAIN (dB)	OUTPUT LEVEL	MIN INPUT LEVEL	TILT CONTROL	GAIN CONTROL	NOISE FIGURE	RETURN LOSS	ISOLATION	TEST POINT	POWER CONSUMPTION
47~862	35	98dB (42 Ch. CENELEC)	63dBuV	0~15dB	0~20dB	-8dB	-13dB	-20dB (port to port)	-20dB	800mA

The PSK5S power supply is included with the CAT01.

Available separately is the Kingray KLE02 impedance matching balun cable for connection between the RJ45 wall outlet and the television ensuring optimal performance at all times.



KLE02

Rounding out the range is the optional KB02 19"rack mounting bracket.

KB02

FEATURES

- High Output
- 35dB maximum gain
- -20dB test point
- Wide bandwidth 47~862 MHz
- Can be rack mounted

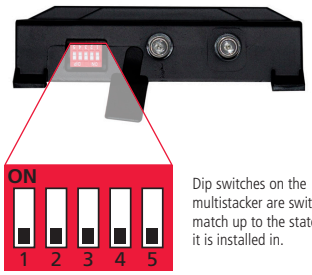
PSK5S

The Kingray KMS-F1 Satellite Multistacker is designed specifically for use with the Foxtel Satellite Platform.

The satellite multistacker is a standalone device that can be installed directly after a twin or quad universal vertical - horizontal LNBF. It is typically installed before the first distribution point in the SMATV system. It restacks the vertical polarity transponder services onto a horizontal polarity, allowing the distribution of satellite services via a single cable.

KMS-F1

- FTA services are diplexed in after the Multistacker
- Suitable for new and existing SMATV installations



Dip switches on the multistacker are switched to match up to the state/territory it is installed in.

SWITCH NUMBER	1	2	3	4	5	STB SETTING
NAT	OFF	OFF	OFF	OFF	OFF	NAT 01
NSW + ACT	**ON**	OFF	OFF	OFF	OFF	NSW 02
VIC	OFF	**ON**	OFF	OFF	OFF	VIC 03
QLD	**ON**	**ON**	OFF	OFF	OFF	QLD 04
SA	OFF	OFF	**ON**	OFF	OFF	SA 05
WA	**ON**	OFF	**ON**	OFF	OFF	WA 06
TAS	OFF	**ON**	**ON**	OFF	OFF	TAS 07
NT	**ON**	**ON**	**ON**	OFF	OFF	NT 08

Due to the design of the multistacker there is no headend set up procedure. The Foxtel Network Information Table (NIT) automatically updates the SMS frequencies to tune to in the same way a FOXTEL STB is updated in the field. The installation method for a large variety of buildings has now become more simplified, such as;

- Domestic homes that are difficult to re-cable
- MDU's listed as "non-homes passed" which have been difficult to cable due to cabling access
- MDU lite buildings that are H polarity only cabled
- Twin backbone no PVR buildings with single laterals
- Single wired commercial buildings
- Single wired residential estates including RF or optical distribution

KMS-F1	
PARAMETERS	**SPECIFICATIONS**
Input/Output Frequency Range	950~2350MHz
Input/Outputs	4 x Inputs / 1 x Output
Power Range	65~85dBµV Input / 80-85dBµV Output
Input/ Output Return Loss	>10dB
Supply Voltage	12V or 18V DC
Max. Current Consumption	560mA @ 12V DC
	370mA @ 18V DC
DC Consumption (Excluding Lnbs)	0.75A @ 12V Max (10W)
Operating Temperature	-20˚C ~ +60˚C
POWERING OPTIONS	
Option 1	Locally via a PSK124F
Option 2	Remotely via the output
PHYSICAL PARAMETERS	
Dimensions (mm)	127 x 130 x 38
Weight	415 grams

FOXTEL IPL No. F30963

FEATURES

- The Multistacker has 4 input ports which cater for low and high band signals
- Low band via DC Voltage
- High band via DC and 22 KHz tone

Note: It is important to have the satellite RF feeds connected between the LNBF and SMS before the unit is powered up.

INPUT PORTS FROM LEFT TO RIGHT		
Port 4 HH	18 volts plus 22KHz	(Future satellite)
Port 3 VH	13 volts plus 22KHz	(Future satellite)
Port 2 HL	18 volts	(Current Foxtel H pol services)
Port 1 VL	13 volts	(Current Foxtel V pol services)

The Multistacker has 2 ports on the bottom

- Output Port:Stacked satellite RF output port with the ability to remotely power the multistacker
- DC/PWR Port:Local powering via the supplied DC power pack

Note: When using the local powering option, the installation of the power block at the RF output is required to stop unwanted power entering the SMS

Local powering option can be extended using RG6 coaxial cable, the maximum run of cable depends on the voltage source used.
18 Volt is 50 metres with the PSK183F.

When line powering via the RF output with the use of a power injector & FTA – Satellite diplexer in line, the maximum cable runs are reduced to the following.
18 Volt is 40 metres with PSK183F.

Note: The KMS-F1 is suitable for the Australian market only

POWER SUPPLIES

Kingray's power supplies maintain the reputation as one of the most reliable and with the highest quality within the industry.

They feature posistor protection circuitry which fully complies with Australian and New Zealand energy standards, including MEP's compliance.


PSK06


PSK06F


PSK12S


PSK18F


PSK18S


PSK18M


PSK183F

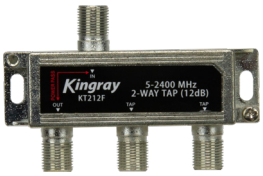

PSK08


PSK08F

POWER SUPPLIES									
	VOLTAGE	INJECTOR TYPE	FOXTEL IPL NO.	MHW Series MHU Series MHV Series	MDA Series	SAT29D SAT42D SAT25S SAT40S	DW32	DW42 DA43 MD100VS MD100US	KAT8F KAT16F KAT24F KAT32F DSB38F
PSK06	14V DC 150mA	PAL		•	•				
PSK06F		F		•	•				
PSK12S	12V DC 150mA	2.5mm DC	F10288				•	•	
PSK18F	18V DC 1000mA	F	F10287			•		•	
PSK18S		2.5mm DC	F10289			•	•	•	
PSK18M		Male F-Type	F31096						•
PSK183F	18V DC 3.33mA		F31077						•
PSK08	17.5V AC 100mA	PAL		•					
PSK08F		F		•					

F-TYPE TAPS 5-2400MHZ

The Kingray passive taps are designed to cover the Terrestrial and Satellite Bands from 5 to 2400MHz.

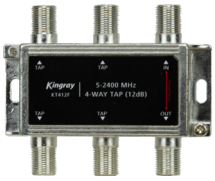


KT212F

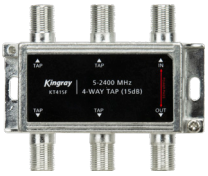
KT215F

Note: Power Pass on through port only.

PART NO.		KT212F	KT215F	KT412F	KT415F	KT420F	KT816F
PARAMETERS		SPECIFICATIONS					
Frequency Range		5~2400MHz					
Ports		2	2	4			8
Insertion Loss (dB)	40~1000MHz	2.0	2.0	4.0	3.0	2.2	4.0
	1000~1750MHz	2.5	2.5	4.5	3.5	2.5	4.5
	1750~2400MHz	3.0	3.0	5.0	4.5	3.5	5.0
Mutual Isolation (dB)	40~1000MHz	>30					
	1000~1750MHz	>26	>28	>28			>35
	1750~2400MHz	>25					
Return Loss (dB)	40~2400MHz	>12					
Tap Loss (dB)	40~2400MHz	12	15	12	15	20	16
Foxtel IPL No.		F31057	F31056	F30954	F30955	F30956	F30969

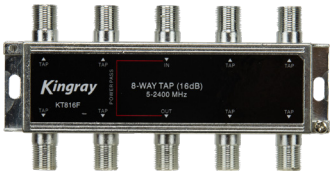


KT412F



KT415F

KT420F



KT816F

F-TYPE SPLITTERS 5-2400MHZ

These splitters have high isolation, are power pass on all ports and have greater than 100dB RF shielding.

The KSP2FRPP & the KSP4FRPP have been specifically designed for use in a multistacker system. These splitters pass power from the input port to the output ports, which allow the active taps to be power remotely. The other splitters pass power in the traditional configuration, which is from the output ports to the input port.


KSP2F


KSP2FRPP


KSP3F

PART NO.		KSP2F/ KSP2FRPP	KSP3F	KSP4F/ KSP4FRPP	KSP6F/ KSP8F
PARAMETERS		SPECIFICATIONS			
Insertion Loss (dB)	5~40MHz	4.0	7.5	8.0	11.0
	40~1000MHz	4.5	8.0	8.5	12.0
	1000~1750MHz	5.0	9.5	10.0	13.0
	1750~2400MHz	5.5	10.0	10.5	15.0
Return Loss (dB)	5~2400MHz	>10			
Foxtel IPL No.		F30950/ F30998	F30951	F30952/ F30997	F30964/ F30965


KSP4F


KSP4FRPP

KSP6F

KSP8F

SATELLITE MULTISWITCHES

The Foxtel approved Kingray multiswitches have a low power consumption & are manufactured in a compact zinc die-cast housing.

KSM24

KSM28

SATELLITE MULTISWITCHES

PART NUMBERS	FREQUENCY (MHZ)	MAX. GAIN (dB)	INPUTS	OUTPUTS	OUTPUT FIGURE	CURRENT (mA)	DIMENSIONS (mm)	FOXTEL IPL NO.
KMS24	950~2150	0 ~ +2	2	4	100dBµV Max.	<50	110(L) x 90(W) x 21(H)	F31104
KSM28				8		<65		F31103

LEADS & BRACKETS

KB03

KLE020

KLE030

KLE150W

KLE200W

KLE200IMIMW

LEADS & BRACKETS

PART NUMBERS	LENGTH	DESCRIPTION	FOXTEL IPL NO.
KB03	N/A	Mounting Bracket for PSK124F & PSK183F	F31046
KLE020	1.5m	Power Cable 1.5m - 3 Pin to IEC-C13	N/A
KLE030	450mm	DC Y Splitter Power Lead with 2.1mm Connectors	N/A
KLE150W	1.5m	1.5m White RG6 Tri-Shield Flylead F-Type Connectors	F31116
KLE200W	2.0m	2m White RG6 Tri-Shield Flylead F-Type Connectors	F31117
KLE200IMIMW	2.0m	2m White RG6 Tri-Shield Flylead PAL Male Connectors	F31160

Kingray has produced a range of high quality power and signal injectors.

These products have been designed to remotely power a number of our products including amplifiers and modulators.

For remotely powering active taps or a multistacker, in conjunction with a suitable power supply.

PIK2400

F-TYPE POWER INJECTORS			
PART NUMBERS	**VOLTAGE**	**FREQUENCY**	**FOXTEL IPL NO.**
PIK2400	60V DC 2A Max.	5~2400MHz	F31017

The following two models are designed to inject power into the coax cable to supply power to an active device such as masthead or distrubtion amplifier remotely.

Power open ended

PIK170F

Signal + Power
Max. 30V @ 300 mA

Trace on wire = Positive
Short Circuit Protected

PIK170FDC

Signal + Power
Max. 30V @ 300 mA

Trace on wire = Positive
Short Circuit Protected

F-TYPE POWER INJECTORS			
PART NUMBERS	**VOLTAGE**	**FREQUENCY**	**DESCRIPTION**
PIK170F	30V Max.	5~860MHz	Open Ended Cable to F-Type Power Injector
PIK170FDC	30V Max.	5~860MHz	Cigarette Lighter Plug to F-Type Power Injector

CONNECTORS & ADAPTERS

PCT is widely known for its patented compression connector technology, but is always looking for new ways to improve the quality of the drop.

PCT stands behind the philosophy that a tight connection is always the best connection but understands that an installation completed by a customer or installer may run the chance of being less than perfect. That's why PCT develops products that help avoid service related issues, increase customer satisfaction and lower operational expenses for operators.


PCTTRSF6L


PCTTRSF11L


PCTTRS59L


PCTTRS6LMG


PCTTRS6LRA


PCTTRS6IFNT


PCTTRS6IFMNT

COMPRESSION CONNECTORS		
PART NUMBERS	**DESCRIPTION**	**FOXTEL IPL NO.**
PCTTRSF6L	RG6 F Compression Connector	F31126
PCTTRSF11L	RG11 F Compression Connector	F31125
PCTTRS59L	RG59 F Compression Connector	F31121
PCTTRS6LMG	RG6 F Compression Connector	N/A
PCTTRS6LRA	RG6 Right Angle F Compression Connector	F31124
PCTTRS6IFNT	RG6 PAL Female Compression Connector	F31123
PCTTRS6IMNT	RG6 PAL Male Compression Connector	F31122
PCTDRS6IFNT	RG6 PAL Female Compression Connector	F31159
PCTDRS6IMNT	RG6 PAL Male Compression Connector	F31158

The KFTERM01 is a 1kV DC Blocking 75 Ohm Terminator.

KFTERM01				
FREQUENCY RANGE (MHz)	**INSERTION LOSS (dB)**	**ISOLATION (dB)**	**RETURN LOSS (dB)**	**FOXTEL IPL NO.**
5~862	≤1.0	≥30	≥12	F30999
950~2400	≤1.0	≥40	≥12	


KFTERM01

The KDBLOCK is an in-line DC block with a voltage rating at 100V DC max.

KDCBLOCK			
FREQUENCY RANGE (MHz)	**INSERTION LOSS (dB)**	**RETURN LOSS (dB)**	**FOXTEL IPL NO.**
5~1000	≤0.2	≥12	F31082
1000~2400	≤0.5	≥12	


KDCBLOCK

Today, more than ever, filtering and diplexing of RF signals plays an important part in providing quality pictures both domestically and commercially. Kingray has developed numerous types of quality filters and diplexers that can easily solve common reception problems for digital systems.

These band pass filters are ideal for the attenuation of unwanted interfering signals, thus providing a cleaner set of RF signals for distribution. As part of the design, these filters have a rubber o-ring & a rubber seal.

The band pass filters have a minimum of -40dB out of band attenuation with a return loss of greater than -15dB.

FL612BP

FL2833BP

FL3439BP

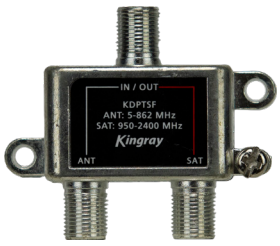
FL4045BP

FL4651BP

BAND PASS FILTERS		
PART NUMBERS	DESCRIPTION	CHANNEL BLOCK
FL612BP	Band Pass Channel Filter – CH6~12	Block A
FL694LP	Band Pass Channel Filter – CH28~33	Block B
FL2833BP	Band Pass Channel Filter – CH34~39	Block C
FL3439BP	Band Pass Channel Filter – CH40~45	Block D
FL4651BP	Band Pass Channel Filter – CH46~51	Block E

FL694LP

4G/LTE FILTER		
PART NUMBER	SPECIFICATION	FOXTEL IPL NO.
FL694LP	Attenuates above 694 MHz~55dB @750 MHz	F30940



KDPTSF

TERRESTRIAL / SATELLITE DIPLEXER		
PART NUMBER	SPECIFICATION	FOXTEL IPL NO.
KDPTSF	5~862 / 950~2400 MHz	F30953

TOOLS

KSTRG596 STRIPPING TOOL

Strips RG59 & RG6 tri and quad shield coaxial cable. Interchangeable & reversible cassette with RG59 & RG6 on both sides.

FEATURES

- Unique black velcro strip on the bottom
- Suitable for all RG59, RG6 cables
- Compact size
- Foxtel IPL No. F31118

KSTRG596

KSTRG59611 STRIPPING TOOL

Strips RG59, RG6 & RG11 tri and quad shield coaxial cable. Interchangeable & reversible cassette with RG59 & RG6 on one side & RG11 on the other side.

FEATURES

- Unique black velcro strip on the bottom
- Suitable for all RG59, RG6 and RG11 cables
- Compact size
- Foxtel IPL No. F31119

KSTRG59611

KST659 STRIPPING TOOL

The KST659 stripping tool is designed to be used with the KPL6P connector so the tool leaves the required 8mm of dielectric exposed for correct fitment of the KPL6P onto the coaxial cable. The KST69 tool is suitable for all variants of RG6 and RG59 cable and is supplied in hang sell blister packaging.

FEATURES

- Ease of use
- Suitable for all RG6 and RG59 cables
- Durable steel blades
- Compact size

KST659

PCTAIOCT COMPRESSION TOOL

The PCT-AIO-CT All-In-One compression tool is PCT's solution to the problem of multiple tools in the field. The AIO is a uniquely designed compression tool that eliminates the need for installers to carry more than one tool.

This tool is truly universal and works with almost every connector on the market today. Different compression lengths can be selected with the simple push of a button, and a pop out mandrel allows for quick connector style selections.

The pop out mandrel requires no calibration and is permanently affixed to tool body to prevent misplacement.

FEATURES

- Full 360° compression surface
- Flip latch secures connector assembly providing perfect alignment
- Use with multiple types of cable types - Series 6, 7, 11, 59 & 320QR
- Compact, pocket-size design
- Enhanced leverage for easier activation
- Greater durability for longer life
- Foxtel IPL No. F31129

PCTAIOCT

PCTRHCT COMPRESSION TOOL

The PCT-RH-CT is a One-of-a-Kind compression tool designed with installers' needs in mind. The PCT-RH-CT allows users the benefits and ease of a horseshoe style compression tool.

During compression, the connector is supported a full 360 degrees for balanced and consistent installations.

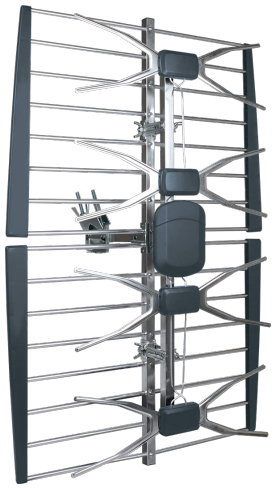
FEATURES

- Slim design allows users to get extremely close to the connector when cable length is limited
- Works on TRS 6 & 59 and DRS 11 connector stroke lengths
- Automatically aligns cable
- Compact, pocket-size design
- Enhanced leverage for easier activation
- Greater durability for longer life
- Foxtel IPL No. F31128

PCTRHCT

The Kingray television antenna range is fast gaining a reputation for exceptional performance and rugged build quality.

The range has been developed to withstand the harshest of Australia's environmental conditions, with UV stabilised plastics, heavy duty mounting brackets, booms and elements have all been chosen to ensure many years of trouble free service. All models display the quality you have come to expect in a Kingray product.



KPANELLTE

KPANELLTE

UHF PHASED ARRAY ANTENNA

FEATURES

- 694 MHz low pass LTE filter
- Heavy duty mounting bracket with tilt
- Reflector elements individually screwed to boom
- Easy to install
- Horizontal and vertical operation
- UV stabilised weatherproof balun housing

LTE is a trademark of ETSI

KPANELLTE	
GAIN	12.5dB
WIND LOAD	78 (n)
FREQUENCY RANGE	470~694MHz
BEAM WIDTH (HORIZONTAL)	+/-25 degrees
BEAM WIDTH (VERTICAL)	+/-20 degrees
SIZE	815 x 545mm
F CONNECTOR	Yes
WEIGHT	1.65kg
CHANNELS	28 – 51
FRONT TO BACK RATIO	22dB
NO. OF ELEMENTS	4
IMPEDANCE	75 Ohm
F CONNECTOR	Yes

KVHFY6

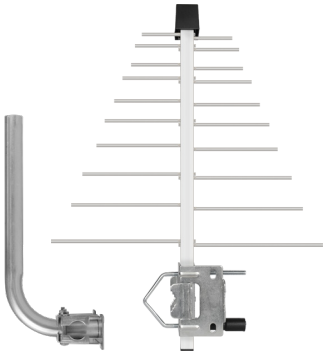
KVHFY6

6 ELEMENT VHF ANTENNA

FEATURES

- Heavy duty 12mm rod
- Heavy duty mounting bracket
- UV stabilised plastics
- Easy to install
- Horizontal and vertical operation
- Suitable for DAB+

KVHFY6	
ELEMENTS	6
BAND	3
CHANNELS	6 – 12
FREQUENCY	174~230MHz
GAIN	10.5dB
F/B RATIO	16dB
OVERALL LENGTH	1275mm
MAXIMUM WIDTH	834mm
F CONNECTOR	Yes



KMLP01

MINI LOG

UHF DIGITAL TV ANTENNA

FEATURES

- Compact & lightweight antenna
- UV stabilised plastics
- Easy to install
- Horizontal and vertical operation
- Includes 0.3m J-pole

KMLP01	
ELEMENTS	20
BAND	3
CHANNELS	21 – 69
FREQUENCY	470~862MHz
GAIN	7.5dB
F/B RATIO	21dB
OVERALL LENGTH	400mm
MAXIMUM WIDTH	311mm
F CONNECTOR	Yes

DIGITAL MODULATORS

KDM101A

SINGLE AV TO SD DVB-T MODULATOR

KDM101A is a single AV input to digital RF modulator, its purpose is to facilitate signal distribution in a coax cable network.

The intuitive, simple menus, provide for a quick and easy installation, while the use of the latest intelligent electronic components combined with the latest software and hardware advances have resulted in a product that boasts optimum performance and reliability.

FEATURES

- Easy to program basic and advanced menus
- Low insertion loss antenna input (1.5dB)
- Adjustable output level, frequency and offset
- Selectable 2K, 8K carrier
- Adjustable constellation, FEC and guard interval
- Adjustable colour, brightness, contrast and saturation
- Adjustable LCN, PID, NIT, PDS and TS ID
- Programmable channel name
- Variable video and audio bit rates

KDM101A

KDM101A DIGITAL CHANNEL CONVERTER/PROCESSOR

FREQUENCY (MHz)	OUTPUT LEVEL dBµV	CHANNEL BANDWIDTH	CARRIER	MER	OUTPUT LEVEL ADJUSTMENT	TEMPERATURE RANGE	CARRIER TO NOISE
174~820 (AUS) 470~862 (NZ)	70-85	7 or 8MHz	2K, 8K	>38dB type	15dB	0 ~ +45°C	>40dB

KDM401A

QUAD AV TO SD DVB-T MODULATOR

The KDM401A is a commercial quality quad AV standard definition modulator with integrated multiplexing to combine all four AV inputs in one RF channel, maximising spectrum efficiency.

Programming is quick and easy either by the front panel or a computer using the Ethernet port. The housing design allows the unit to be professionally mounted in a 19" rack or shelf.

FEATURES

- Quad input AV SD modulator multiplexed into one RF channel
- Easy to program basic and advanced menus
- Adjustable output level, frequency and offset
- Selectable 2K, 8K carrier
- Adjustable constellation, FEC and guard interval
- Adjustable colour, brightness, contrast and saturation
- Adjustable LCN, PID, NIT, PDS and TS ID
- Programmable channel name
- Variable video and audio bit rates
- Quick Setup - For one or multiple modulators in the system
- USB Input - Save configuration & install configuration of a USB
- Aspect Ratio - Programmable 16:9 or 4:3

KDM401A

KDM401A QUAD AV TO SD DVB-T MODULATOR

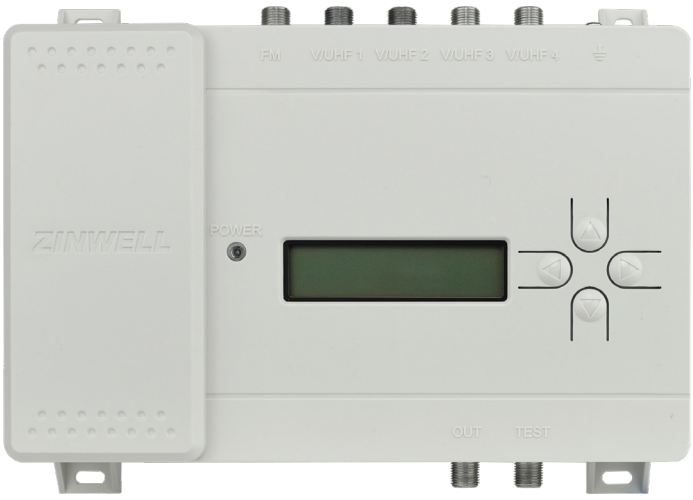
FREQUENCY (MHz)	OUTPUT LEVEL dBµV	CHANNEL BANDWIDTH	CARRIER	MER	OUTPUT LEVEL ADJUSTMENT	TEMPERATURE RANGE	CARRIER TO NOISE
174~820 (AUS) 470~862 (NZ)	80~95	7 or 8MHz	2K, 8K	>38dB	15dB	0 ~ +45°C	>50dB

DIGITAL CHANNEL FILTER

Zinwell's Digital Channel Filter is an all-in-one programmable terrestrial TV signal booster, filter, combiner, channel converter, equalizer, and amplifier.

With 4 x VHF/UHF inputs plus 1 x FM Radio input, it is suitable where terrestrial TV signals can be selected, processed, filtered, combined, equalized, and amplified at once.

With embedded LCD and key pad, it is user friendly for instant adjustment of channels and output power levels to successfully distribute the signals, within a multi--dwelling building.



DCF-1

FEATURES

- 32 maximum output programmable channels
- Integrated Pre-Amplifier and Automatic Gain Control (AGC) to capture and compensate incoming signal level differences
- 4 inputs which each take either VHF or UHF TV signals + 1 FM Radio input
- RF Test Port -30dB
- Adjustable output level up to 113 dBµV
- Intuitive key pad with LCD display for easy programming

DCF-1 DIGITAL CHANNEL FILTER

FREQUENCY (MHz)	OUTPUT LEVEL dBµV	CHANNEL BANDWIDTH	VHF/UHF INPUTS	FM INPUT	OUTPUTS	PROGRAMMABLE CHANNELS	OUTPUT LEVEL ADJUSTMENT	TEMPERATURE RANGE
174~820 (AUS) 510~862 (NZ)	93~113	7 or 8MHz	4	1	1	32 Max.	20dB	0 ~ +50°C

FTA REGENERATING HEADEND

The KRH100 is an all-in-one compact headend, capable of receiving 4 individual services, terrestrial, satellite or cables and convert them to either 4 x DVB-T or DVB-C adjacent RF output channels.

It supports "pool" technology, meaning the user can select any program from any of the 4 inputs and assign them to any of the 4 adjacent RF output channels. The KRH100 is more than just a FTA headend, as it can regenerate signal with a poor MER level as well as a poor digital power input level.

The embedded web server of the KRH100 provides a very user-friendly interface and with the LAN input you can access the device locally or remotely. Its compact size and powerful features make the KRH100 the ideal solution to distribute FTA (Free-To-Air) TV programs from satellite (DVB-S/S2), terrestrial (DVB-T/T2) or cable (DVB-C) sources.

FEATURES

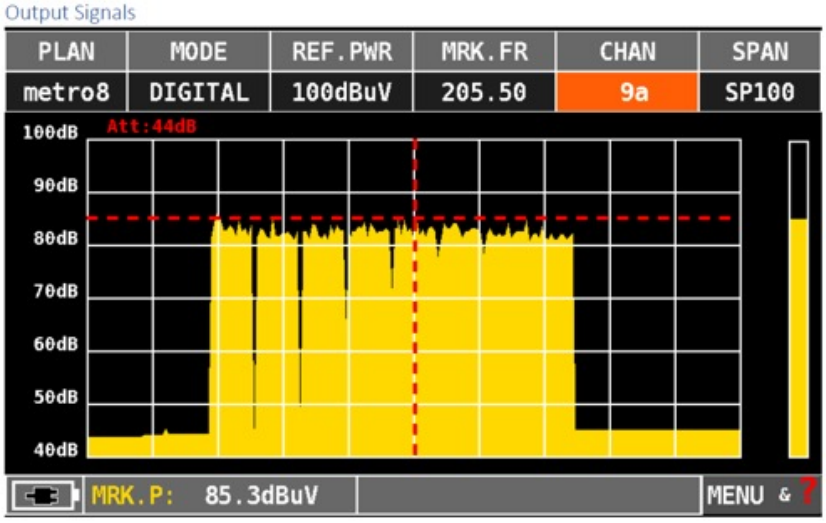
- 4 x independent multi-standard inputs DVB-S/S2/T/T2/C
- 1 x RF output containing up to 4 x DVB-T/C channels (software selectable)
- "Pool" technology
- MER value > 42dB
- PID filtering
- Redundancy mode compatible
- Custom NIT/SDT
- Local or remote control via webserver
- User friendly interface
- Wall or rack mount options
- SNMP v2
- Ultra-compact in size
- 3 Year Warranty (KPS12S Power Supply)
- 5 Year Warranty (KRH100)

KRH100

KRH100 FTA REGENERATING HEADEND

FREQUENCY (MHz)	INPUTS	OUTPUTS	OUTPUT LEVEL dBµV	CHANNEL BANDWIDTH	MER OUTPUT LEVEL	INPUT FORMAT	OUTPUT FORMAT
118~900 (FTA) 950~2150 (SAT)	4	1	90 Max.	6, 7 or 8MHz	> 42dB	DVB-S/S2/T/T2/C	DVB-T/C

Output Signals



OPTICAL FIBRE TRANSMITTERS

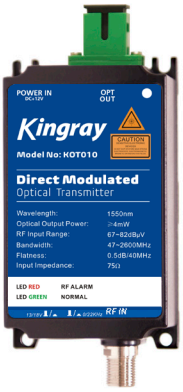
The KOT001 directly modulated optical transmitter has an input range of 47~2600MHz and is specifically designed for the transmission of Digital TV (DVB-C, DVB-T/T2) and Satellite TV (DVB-S) signals.

This transmitter is Foxtel approved & is ideal for use in a FTTx PON system.

The KOT010 transmitter is a compact wall mountable transmitter & is ideal for point to point applications.

FEATURES

- Wide Band Type: 47~2600MHz
- Suitable for Digital TV and Satellite TV application
- One fibre can transmit Digital TV (DVB-C, DVB-T/T2) and satellite TV (DVB-S)
- Cooled HGHL DFB laser provides better system stability (KOT001 only)
- 1550nmTX can be amplified by EDFA, YEDFA to cover large-scale FTTH and is compatible with any FTTx PON technology
- Dual power supply, 1+1 backup (KOT001 only)



KOT010

OPTICAL FIBRE TRANSMITTERS		
PART NUMBERS	**DESCRIPTION**	**FOXTEL IPL NO.**
KOT001	Optical Fibre Transmitter 1550nm - 4mW/6dBm, 19" Rack Mount	F31055
KOT010	Optical Fibre Transmitter 1550nm - 4mW/6dBm, Compact & Wall Mountable	F31150

KOT001

OPTICAL FIBRE RECEIVERS

KOR001

KOR002

The KOR001 optical receiver uses a high-sensitivity PIN detector.

The receiving sensitivity range is +1 to -13dBm. It can receive analogue and digital signals within the frequency range of 47~2600MHz on a single fibre and is compatible with any FTTx PON system to achieve a triple-network combination between Digital TV (DVB-C, DVB-T/T2), Satellite TV (DVB-S) and Internet.

Both receivers are Foxtel approved.

FEATURES

- High linearity, suitable for Digital TV and SAT-IF application
- Wide band Type: 47~2600MHz
- Digital TV (DVB-C, DVB-T/T2) and Satellite TV (DVB-S) signal can be received via a single fibre at the same time
- Built-in WDM (KOR001 only) to separate wavelengths of 1550nm (CATV) and 1310/1490nm (data)
- LED indicator
- Compact in design, wall mountable and light weight

OPTICAL FIBRE RECEIVERS		
PART NUMBERS	**DESCRIPTION**	**FOXTEL IPL NO.**
KOR001	1550nm Optical Fibre Receiver with WDM	F31054
KOR002	1550nm Optical Fibre Receiver	F31076

OPTICAL FIBRE AMPLIFIERS (EDFA)

The KOA Series is a low noise, high performance, Fibre to the premises (FTTP) high power, multi-ports optical amplifier with a gain spectrum bandwidth within 1540~1563nm range. The output port for the optical amplifier has a built-in Coarse Wavelength Division Multiplexer to enable multiplexing with corresponding input ports connecting to a carrier OLT PON port should this be required.

Each 1550nm (CATV)'s output optical port can optically multiplex with corresponding 1310/1490n's carrier OLT PON input data stream to reduce the number of components and improve the reliability of the system.

FEATURES

- Built-in low noise pre-amplifier
- 1540~1563nm operating bandwidth for optical amplifier
- Optional optical output power range of 200~2500mW (23~34dBm)
- 4~32 uplink optical ports, for OLT
- 4~32 1550nm output optical ports, multiply 1310/1490 data stream
- Each output optical port includes built-in high performance CWDM, single fibre, to save optical fibre resources
- Compatible with any FTTx PON technology: EPON, GPON
- Carrier level reliability with network management
- SNMP Management interface
- Efficient space, simple and reliable in construction/maintenance
- Dual power supply, 1+1 backup

AMPLIFIERS WITH WDM	
PART NUMBERS	**DESCRIPTION**
KOA4P	4 Port 1550nm Optical Fibre Amplifier - 15.5dBm per port (23dBm total)
KOA8P	8 Port 1550nm Optical Fibre Amplifier - 15.5dBm per port (27dBm total)
KOA16P	16 Port 1550nm Optical Fibre Amplifier - 15.5dBm per port (30dBm total)
KOA32P	32 Port 1550nm Optical Fibre Amplifier - 15.5dBm per port (34dBm total)

*customised models available upon request

KOA4P

KOA8P

KOA16P

KOA32P

FEATURES

- Low insertion loss, high uniformity
- Low polarization loss
- Wide working wavelength range
- Wide working temperature range
- High stability and reliability
- 19" rack mount

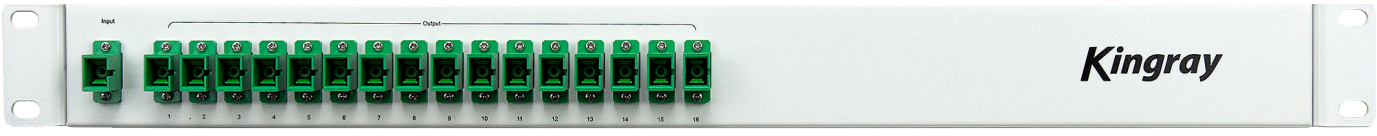
Planar Optical Waveguide Optical Splitter (PLC Splitter) is an integration waveguide optical power distribution device that is based on quartz substrate, has a wide working wavelength range, high reliability and excellent uniformity of optical split.

It is especially suitable for connecting a local unit with a terminal unit in passive optical networks (EPON, BPON, GPON, etc.) to achieve optical signal splitting. The main design divides optical signals in optical communication systems into multi-way output.

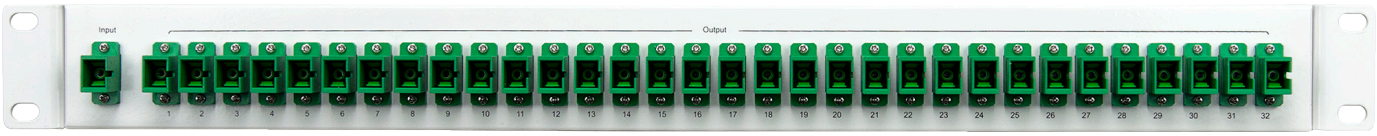
PART NO.	KPLC104	KPLC108	KPLC116	KPLC132
PERFORMANCE	**SPECIFICATIONS**			
Outputs	4	8	16	32
Fibre Type	G.657.A			
Working Wavelength	1260nm~1650nm			
Maximum Insertion Loss (dB)	≤7.4	≤10.7	≤13.9	≤17.2
Port Insertion Loss Uniformity (dB)	≤0.6	≤8.0	≤1.0	≤1.5
Wavelength Insertion Loss Uniformity (dB)	≤8.0		≤1.0	
Return Loss (dB)	≥55			
Directivity (dB)				

KPLC104

KPLC108



KPLC116



KPLC132

OPTICAL FIBRE LEADS

Pre-terminated single mode patch leads, with a low smoke zero halogen PVC jacket.
Available in various lengths.

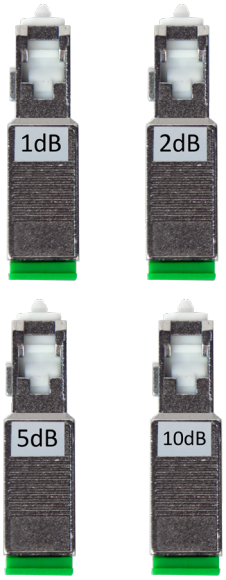
OPTICAL FIBRE PATCH LEADS 9/125um, 3.0mm (LSZH)		
PART NUMBERS	**LENGTH**	**DESCRIPTION**
KLE010	0.5m	SC/APC to SC/APC Single Mode Patch Lead
KLE011	0.5m	SC/APC to SC/PC Single Mode Patch Lead
KLE012	1.0m	SC/APC to SC/APC Single Mode Patch Lead
KLE013	1.0m	SC/APC to SC/PC Single Mode Patch Lead
KLE014	1.5m	SC/APC to SC/APC Single Mode Patch Lead
KLE015	1.5m	SC/APC to SC/PC Single Mode Patch Lead

KLE010

OPTICAL FIBRE LEADS 9/125um, 3.0mm (LSZH)		
PART NUMBERS	**LENGTH**	**DESCRIPTION**
KLE10MSC	10m	10m SC/APC to SC/APC Single Mode Lead
KLE15MSC	15m	15m SC/APC to SC/APC Single Mode Lead
KLE20MSC	20m	20m SC/APC to SC/APC Single Mode Lead
KLE25MSC	25m	25m SC/APC to SC/APC Single Mode Lead
KLE30MSC	30m	30m SC/APC to SC/APC Single Mode Lead
KLE35MSC	35m	35m SC/APC to SC/APC Single Mode Lead
KLE40MSC	40m	40m SC/APC to SC/APC Single Mode Lead
KLE45MSC	45m	45m SC/APC to SC/APC Single Mode Lead
KLE50MSC	50m	50m SC/APC to SC/APC Single Mode Lead
KLE60MSC	60m	60m SC/APC to SC/APC Single Mode Lead
KLE70MSC	70m	70m SC/APC to SC/APC Single Mode Lead
KLE80MSC	80m	80m SC/APC to SC/APC Single Mode Lead
KLE90MSC	90m	90m SC/APC to SC/APC Single Mode Lead
KLE100MSC	100m	100m SC/APC to SC/APC Single Mode Lead

KLE011

SPECIFICATIONS			
Connector Type	SC to SC	**Polish Type**	APC & PC
Fibre Mode	Single Mode 9/125µm	**Wavelength**	1310/1490/1550nm
Insertion Loss	≤0.3dB	**Return Loss**	≥60dB
Fibre Grade	G.652D	**Minimum Bend Radius**	30mm
Attenuation at 1310nm	0.36 dB/km	**Attenuation at 1550nm**	0.22 dB/km
Fibre Count	Simplex	**Cable Diameter**	3.0mm
Cable Jacket	LSZH PVC	**Storage Temperature**	-40~80°C
Operating Temperature	-20~60°C		

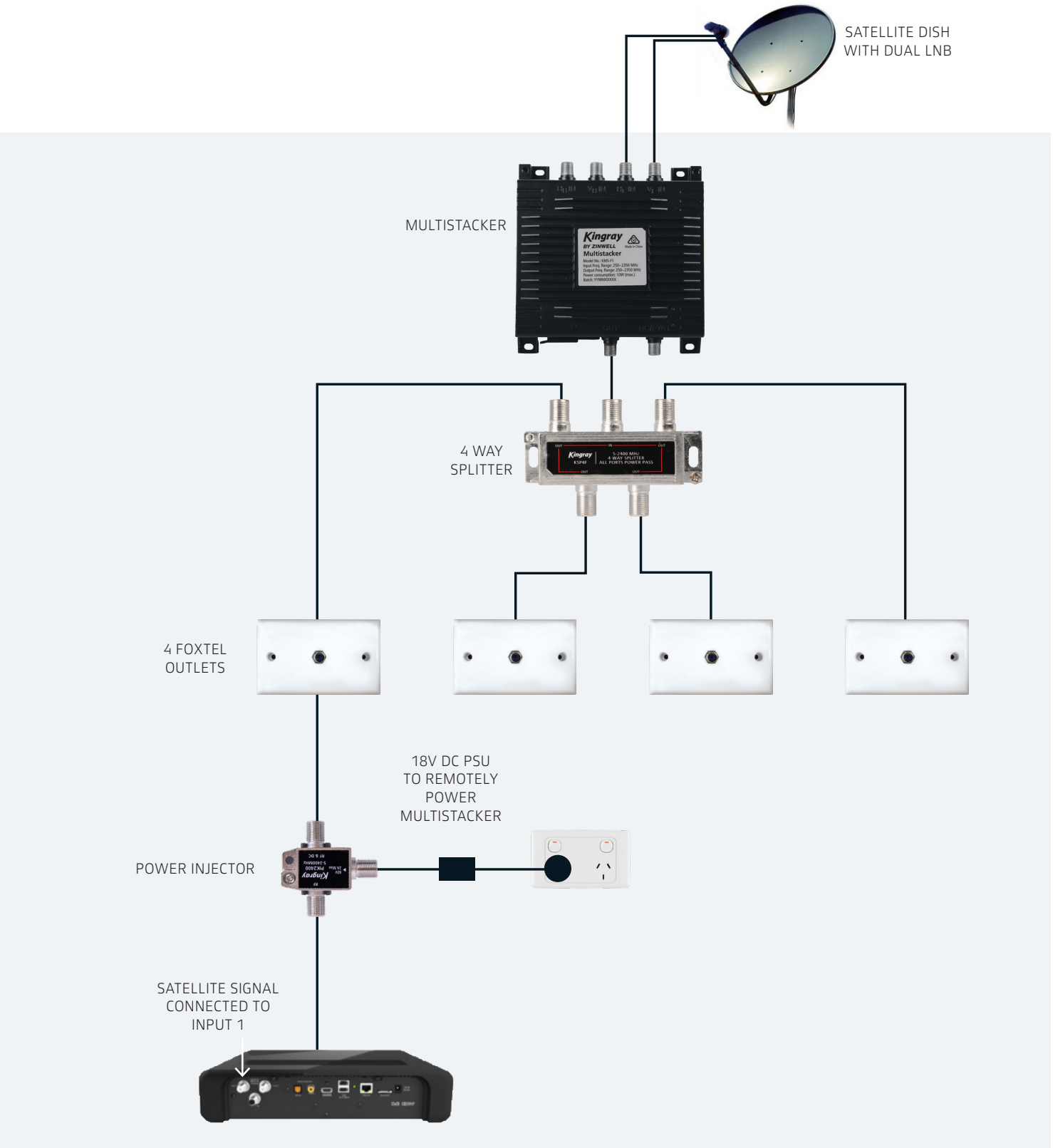


SC Single Mode Male to Female Attenuator. Designed to attenuate the optical fibre signal (1260~1620) in a stable & desired level without any changes to the original transmission wave.

OPTICAL FIBRE ATTENUATORS	
PART NUMBERS	**DESCRIPTION**
KOATT1DB	1dBm Optical Attenuator F-M SC/APC
KOATT2DB	2dBm Optical Attenuator F-M SC/APC
KOATT5DB	5dBm Optical Attenuator F-M SC/APC
KOATT10DB	10dBm Optical Attenuator F-M SC/APC

MULTISTACKER RESIDENTIAL DWELLING INSTALLATION EXAMPLE

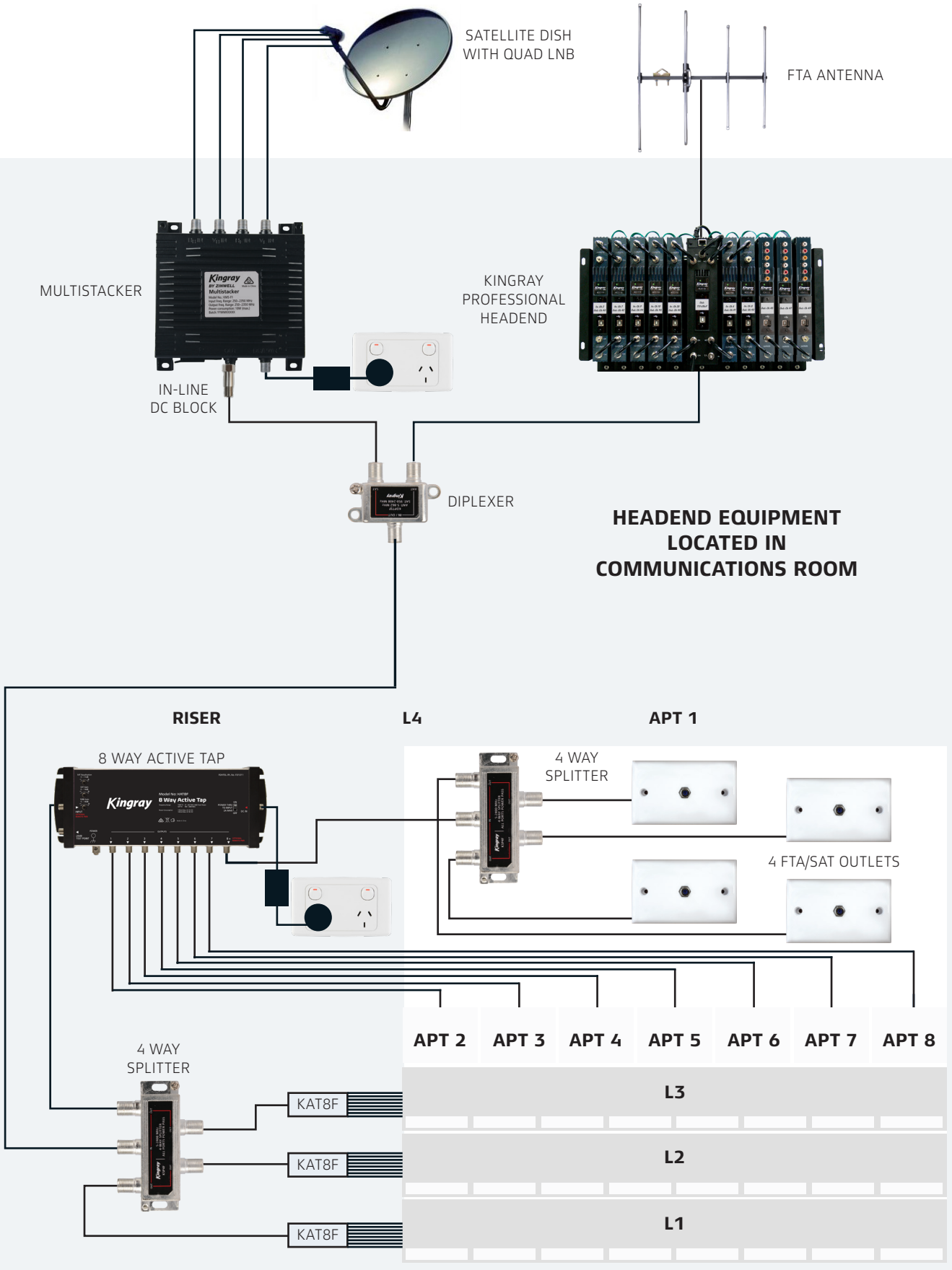
The below diagram is an example of a multistacker installed in a residential dwelling.



- Please make sure you have earthed the multistacker & other products as required.
- Please update Foxtel by email to stacker@foxtel.com.au with the relevant Foxtel documentation for approval.

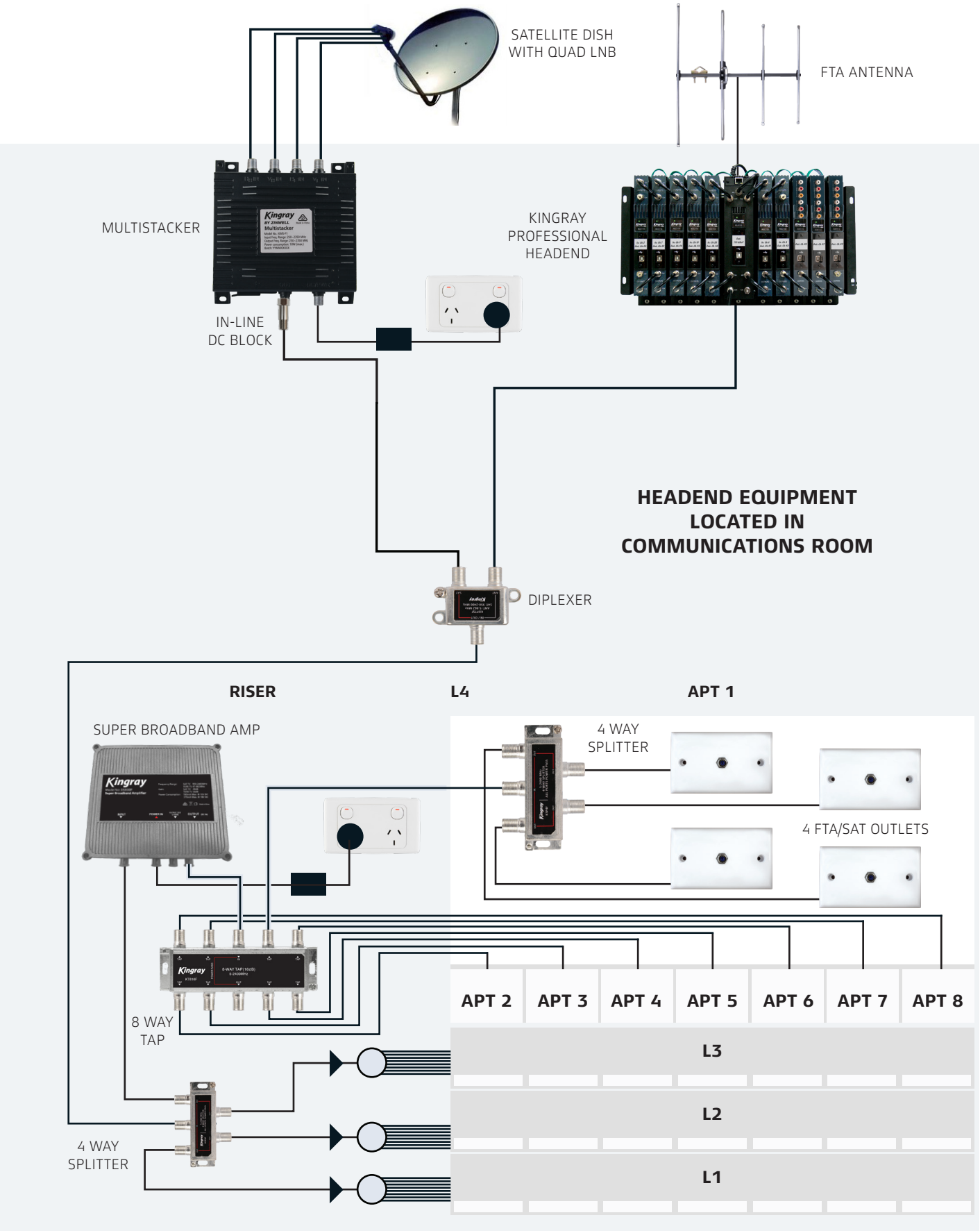
MULTISTACKER DISTRIBUTION EXAMPLE USING ACTIVE TAPS

The below diagram is an example of a multistacker distribution system using active taps per floor. The RF signal is then distributed directly to each apartment where a splitter is then used to feed the RF signal to the wall outlets.



MULTISTACKER DISTRIBUTION EXAMPLE USING AMPLIFIERS & PASSIVES

The below diagram is an example of a multistacker distribution system using super broadband amplifiers per floor. The RF signal is then feed into a splitter & distributed directly to each apartment where either a splitter or tap is then used to feed the RF signal to the wall outlets.



AUSTRALIAN FREQUENCY CHART & DIN TEST

OUTPUT POWER TESTING STANDARDS FOR AMPLIFIERS

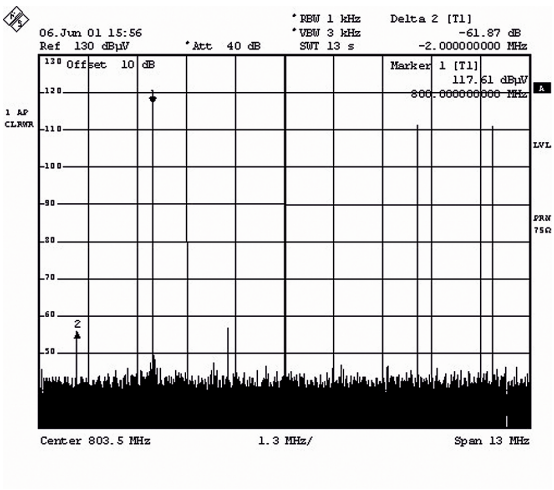
There are many tests used to measure the maximum output of an amplifier and at what stage distortions or inter modulation will occur.

All Kingray amplifiers are tested and measured in accordance with the international specifications of DIN45004-B 6.3 3 tone, which provides one of the best measures for our local environment.

These tests are carried out at VHF and UHF with the lower of the two figures recorded (providing extra headroom). As you can see from the test, the unwanted third order distortion is being measured at the ratio of -60dB from the wanted carrier. You may find amplifiers with extraordinarily high output figures are not quoting DIN45004-B and are using a ratio of -46dB which has provided the better output figure, however there is no room for margin with this method compared with using DIN45004-B @ 60dB.

Put simply, this test provides a rough equivalent of 2 television channels, where the de-rating process can then be started. Once the maximum output figure has been established using DIN45004-B 6.3, the -60dB ratio is maintained by subtracting 3dB every time you double the amount of channels that are running through the amplifier.

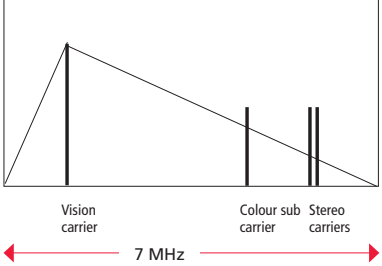
For example the DW42:
2 Channels - 118dB @ -60dB IMR
4 Channels - 115dB @ -60dB IMR
8 Channels - 112dB @ -60dB IMR etc.



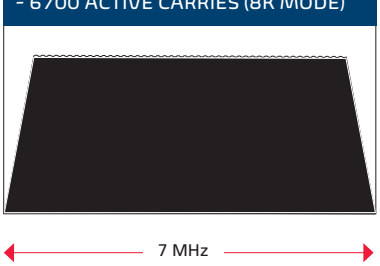
BROADCAST BAND CHANNEL EXTENTS AND CENTRE FREQUENCIES (LTE CHANNEL PLAN)

	AUSTRALIAN 7 MHz DESIGNATED CHANNEL NUMBER	7 MHz CHANNEL FREQUENCY LIMITS (MHz)	7 MHz DIGITAL CHANNEL CENTRE FREQUENCY (MHz)
BAND III			
A	6	174-181	177.5
	7	181-188	184.5
	8	188-195	191.5
	9	195-202	198.5
	9A	202-209	205.5
	10	209-216	212.5
	11	216-223	219.5
	12	223-230	226.5
BAND IV			
B	28	526-533	529.5
	29	533-540	536.5
	30	540-457	543.5
	31	457-554	550.5
	32	554-561	557.5
	33	561-568	564.5
	34	568-575	571.5
	35	575-582	578.5
BAND V			
C	36	582-589	585.5
	37	589-596	592.5
	38	596-603	599.5
	39	603-610	606.5
	40	610-617	613.5
	41	617-624	620.5
D	42	624-631	627.5
	43	631-638	634.5
	44	638-645	641.5
	45	645-652	648.5
	46	652-659	655.5
	47	659-666	662.5
E	48	666-673	669.5
	49	673-680	676.5
	50	680-687	683.5
	51	687-694	690.5

ANALOGUE TV CHANNEL



DIGITAL TV CHANNEL - 6700 ACTIVE CARRIES (8K MODE)



DB CONVERSION TABLE

Microvolts (µV)	dBµV	dBmV	dBm	Milli-volts (mV)	dBµV	dBmV	dBm	Milli-volts (mV)	dBµV	dBmV	dBm
10.00	20	-40	-89	1.00	60	0	-49	112.20	101	41	-8
11.22	21	-39	-88	1.12	61	1	-48	125.90	102	42	-7
12.59	22	-38	-87	1.26	62	2	-47	141.30	103	43	-6
14.13	23	-37	-86	1.41	63	3	-46	158.50	104	44	-5
15.85	24	-36	-85	1.59	64	4	-45	177.90	105	45	-4
17.78	25	-35	-84	1.78	65	5	-44	199.50	106	46	-3
19.95	26	-34	-83	2.00	66	6	-43	223.90	107	47	-2
22.39	27	-33	-82	2.24	67	7	-42	251.20	108	48	-1
25.12	28	-32	-81	2.51	68	8	-41	281.80	109	49	0
28.18	29	-31	-80	2.82	69	9	-40	316.20	110	50	1
31.62	30	-30	-79	3.16	70	10	-39	354.80	111	51	2
35.48	31	-29	-78	3.55	71	11	-38	398.10	112	52	3
39.81	32	-28	-77	3.98	72	12	-37	446.70	113	53	4
44.67	33	-27	-76	4.47	73	13	-36	501.20	114	54	5
50.12	34	-26	-75	5.01	74	14	-35	562.30	115	55	6
56.23	35	-25	-74	5.62	75	15	-34	631.00	116	56	7
63.10	36	-24	-73	6.31	76	16	-33	707.90	117	57	8
70.79	37	-23	-72	7.08	77	17	-32	794.30	118	58	9
79.43	38	-22	-71	7.94	78	18	-31	891.30	119	59	10
89.13	39	-21	-70	8.93	79	19	-30	Volts (V)	dBµV	dBmV	dBm
100.00	40	-20	-69	10.00	80	20	-29	1.00	120	60	11
112.20	41	-19	-68	11.22	81	21	-28	1.12	121	61	12
125.90	42	-18	-67	12.59	82	22	-27	1.26	122	62	13
141.30	43	-17	-66	14.13	83	23	-26	1.41	123	63	14
158.50	44	-16	-65	15.85	84	24	-25	1.59	124	64	15
177.80	45	-15	-64	17.78	85	25	-24	1.78	125	65	16
199.50	46	-14	-63	19.95	86	26	-23	2.00	126	66	17
223.90	47	-13	-62	22.39	87	27	-22	2.24	127	67	18
251.20	48	-12	-61	25.12	88	28	-21	2.51	128	68	19
281.80	49	-11	-60	28.18	89	29	-20	2.82	129	69	20
316.20	50	-10	-59	31.62	90	30	-19	3.16	130	70	21
354.80	51	-9	-58	35.48	91	31	-18	3.55	131	71	22
398.10	52	-8	-57	39.81	92	32	-17	3.98	132	72	23
446.70	53	-7	-56	44.67	93	33	-16	4.47	133	73	24
501.20	54	-6	-55	50.12	94	34	-15	5.01	134	74	25
562.30	55	-5	-54	56.23	95	35	-14	5.62	135	75	26
631.00	56	-4	-53	63.10	96	36	-13	6.31	136	76	27
707.90	57	-3	-52	70.79	97	37	-12	7.08	137	77	28
794.30	58	-2	-51	79.43	98	38	-11	7.94	138	78	29
891.30	59	-1	-50	89.13	99	39	-10	8.91	139	79	30
1000.00	60	0	-49	100.00	100	40	-9	10.0	140	80	31

DIGITAL TV CHANNELS

AUSTRALIAN DIGITAL TV CHANNELS 7MHZ BANDWIDTH

CHANNEL		LOWER CUT-OFF MHz	CENTRE FREQUENCY MHz	UPPER CUT-OFF MHz
VHF	6	174.0	177.5	181.0
	7	181.0	184.5	188.0
	8	188.0	191.5	195.0
	9	195.0	198.5	202.0
	9A	202.0	205.5	209.0
	10	209.0	212.5	216.0
	11	216.0	219.5	223.0
	12	223.0	226.5	230.0
UHF	28	526.0	529.5	533.0
	29	533.0	536.5	540.0
	30	540.0	543.5	547.0
	31	547.0	550.5	554.0
	32	554.0	557.5	561.0
	33	561.0	564.5	568.0
	34	568.0	571.5	575.0
	35	575.0	578.5	582.0
	36	582.0	585.5	589.0
	37	589.0	592.5	596.0
	38	596.0	599.5	603.0
	39	603.0	606.5	610.0
	40	610.0	613.5	617.0
	41	617.0	620.5	624.0
	42	624.0	627.5	631.0
	43	631.0	634.5	638.0
	44	638.0	641.5	645.0
	45	645.0	648.5	652.0
	46	652.0	655.5	659.0
	47	659.0	662.5	666.0
	48	666.0	669.5	673.0
	49	673.0	676.5	680.0
	50	680.0	683.5	687.0
	51	687.0	690.5	694.0
LTE	52	694.0	697.5	701.0
	53	701.0	704.5	708.0
	54	708.0	711.5	715.0
	55	715.0	718.5	722.0
	56	722.0	725.5	729.0
	57	729.0	732.5	736.0
	58	736.0	739.5	743.0
	59	743.0	746.5	750.0
	60	750.0	753.5	757.0
	61	757.0	760.5	764.0
	62	764.0	767.5	771.0
	63	771.0	774.5	778.0
	64	778.0	781.5	785.0
	65	785.0	788.5	792.0
	66	792.0	795.5	799.0
	67	799.0	802.5	806.0
	68	806.0	809.5	813.0
	69	813.0	816.5	820.0

NEW ZEALAND DIGITAL TV CHANNELS 8MHZ BANDWIDTH

CHANNEL		LOWER CUT-OFF MHz	CENTRE FREQUENCY MHz	UPPER CUT-OFF MHz
UHF	26	510.0	514.0	518.0
	27	518.0	522.0	526.0
	28	526.0	530.0	534.0
	29	534.0	538.0	542.0
	30	542.0	546.0	550.0
	31	550.0	554.0	558.0
	32	558.0	562.0	566.0
	33	566.0	570.0	574.0
	34	574.0	578.0	582.0
	35	582.0	586.0	590.0
	36	590.0	594.0	598.0
	37	598.0	602.0	606.0
	38	606.0	610.0	614.0
	39	614.0	618.0	622.0
	40	622.0	626.0	630.0
	41	630.0	634.0	638.0
	42	638.0	642.0	646.0
	43	646.0	650.0	654.0
	44	654.0	658.0	662.0
	45	662.0	666.0	670.0
	46	670.0	674.0	678.0
	47	678.0	682.0	686.0
	48	686.0	690.0	694.0
LTE	49	694.0	698.0	702.0
	50	702.0	706.0	710.0
	51	710.0	714.0	718.0
	52	718.0	722.0	726.0
	53	726.0	730.0	734.0
	54	734.0	738.0	742.0
	55	742.0	746.0	750.0
	56	750.0	754.0	758.0
	57	758.0	762.0	766.0
	58	766.0	770.0	774.0
	59	774.0	778.0	782.0
	60	782.0	786.0	790.0
	61	790.0	794.0	798.0
	62	798.0	802.0	806.0
	63	806.0	810.0	814.0
	64	814.0	818.0	822.0
	65	822.0	826.0	830.0
	66	830.0	834.0	838.0
	67	838.0	842.0	846.0
	68	846.0	850.0	854.0
	69	854.0	858.0	862.0

INDEX

NOTES

GOVERNMENT APPROVALS

Kingray products have all the necessary Australian and New Zealand Government approvals. All comply with Electromagnetic Emission (EMC) guidelines, represented by the RCM.

For mains operated products, we use the Regulatory Compliance Mark (RCM) to indicate electrical safety and EMC compliance.

FOXTEL IPL NO.

Throughout this catalogue a number of products have been listed with the Foxtel approval number. These products have been approved by Foxtel for use in their systems.

Refer to the individual company for their 'approved parts list' verification.

DIN45004B

All Kingray amplifiers are channel loaded and tested to DIN45004B, an internationally accepted standard. This provides an output figure, which is quoted for each amplifier. A simple definition is included on p.33 of this catalogue.

GME Pty Ltd warrants KINGRAY products to be free from defects in material and workmanship from the date of installation and reserve the right to void warranty if the product was misused, improperly installed or damaged by the claimant. See specific product warranty form for the warranty period.

For further information, instruction manuals or specification sheets on any products seen in this catalogue, call your nearest branch or visit: www.kingray.net.au

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