

# Kingray

PROFESSIONAL

Kingray Professional Series

## DIGITAL HEADEND



3 YEAR  
WARRANTY

# KINGRAY Professional Series

Kingray TV signal distribution products have been the unwavering choice of the TV installation industry virtually from the advent of television services in Australia. For over 50 years Kingray amplifiers, converters and modulators have consistently delivered crystal clear, interference free TV reception across the country and more recently across the Asia Pacific region.

Today as we witness a growing convergence of 'Free to Air' television, subscription services, 'pay per view' and Internet delivery techniques; Kingray remains at the forefront of this technological evolution with cost effective, pragmatic solutions to both terrestrial and satellite based signal distribution methodologies.

The new **Kingray Professional Series** sets a new standard in Headend equipment, engineered from the ground up to meet the exacting demands of system designers, carriers and regulators in both Australia and around the world.

At the heart of a **Kingray Professional Series** installation lies the KR110 19" rack with its KLA110 45 dB Launch Amplifier and low noise power supply; to ensure total system flexibility, up to 10 KCC110 Channel Converters/Processors, 10 KDM110 Dual Input Digital Modulators or a combination of either maybe mounted.

Ease of installation, commissioning, and functionality were prime considerations during the development phase of the **Kingray Professional Series**, practical solutions like the simple daisy chain signal couplers, LED status indicators, upgradeable firmware and PC based calibration reflect the no-nonsense innovation incorporated in this remarkable product range.

To add further to the Kingray Professional Series, flexibility, particularly in smaller systems where a single 'stand alone' processor or modulator is required, it may be powered with a standard Kingray PSK24 power supply.

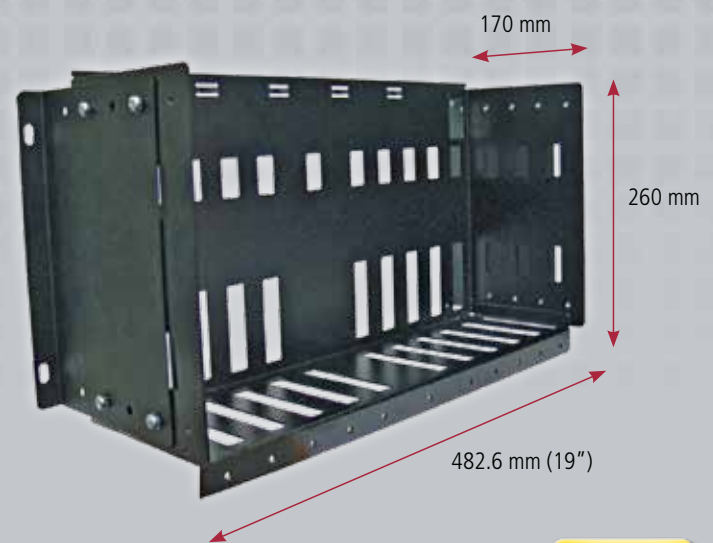
The **Kingray Professional Series** is proudly manufactured in Australia and is accompanied by a comprehensive three year warranty.

## KR 110 Headend Rack

The KR110 is a robust, dual purpose rack that will hold up to 10 modules and a KLA110 launch amplifier/power supply. The rack can be wall mounted or installed in a 19" rack simply by reversing the side support brackets.

### Features

- Strong press metal design
- Durable high quality powder coat finish
- Quick and easy to assemble



## KCC 110 Digital Channel Converter/Processor

The KCC110 is the most advanced digital channel converter/processor available. Whether the KCC110 is being used to output the same channel as it's input channel (processing) or a different output channel to it's input channel (converting), it is capable of adjacent channel operation on both input and output.

### KCC110 Features

- Superior adjacent channel performance due to double saw filtering.
- Very high MER level, up to 36 dB\*
- Input AGC circuitry
- High linearity and low phase noise
- Adjustable output power level control
- Resolution 125 kHz steps
- Adjustable bandwidth
- Stand alone or 19" rack mountable
- Programmable via any computer with an Ethernet connection.
- Programmable via USB when using as a 'stand alone' module.
- Remote control capability via KLA110 within a VPN
- Precision engineered die-cast housing



### KCC 110 Specifications

Input frequency range	44 – 862 MHz
Output frequency range	44 – 862 MHz
Frequency resolution	0.125 MHz
Input/output channel naming	By frequency (software selectable)
Channel bandwidth	7/8 MHz
Output S/N and spurious	>55 dB
Input level range	65 – 95 dB $\mu$ V 80 dB $\mu$ V optimum analogue 60 dB $\mu$ V optimum digital
AGC range	30 dB Min. automatic
Output level adjustment	60-80 dB $\mu$ V
Phase noise	<-85 dBc/Hz at 10 kHz, <-103 dBc/Hz at 100 kHz
Monitor output	-30 dB
AGC LED (signal condition)	Green - within range, flashing Amber - low level or high level, Red - RF output OFF.
Supply voltage	24 V DC
Power consumption	12 W MAX
Operating temperature range	0 to 55° C
RF shielding	>70 dB

\* Dependent on quality of the incoming signal

## KLA 110 Launch Amplifier/Power Supply

The unique design of the KLA110 incorporates a Launch Amplifier, Power Supply and Programming Interface. Designed to be mounted in the middle of the KR110. The power supply is designed to power 10 modules, it can also provide external power to a masthead or pre amp if required.

### Features - Amplifier

- High output
- Low noise figure
- Low insertion loss, input separator / output combiner.
- Adjustable output level
- Adjustable gain
- -30 dB test point
- Wide bandwidth 44-862 MHz
- Embedded web based program
- Efficient low noise switch mode power supply



### KLA 110 Specifications - Power Supply

Operating voltage	110 to 240 V AC, 50/60 Hz
Supply voltage	24 V DC
Stability	+/- 100 mV
Power capability	150 W MAX
Operating temperature range	0 to 55° C
RF shielding	>70 dB
Power lead	Standard 3 pin IEC power cable

### KLA 110 Specifications - Distribution Amplifier

Input frequency range	44 – 862 MHz
Output frequency range	44 – 862 MHz
Output S/N and spurious	>55 dB
Maximum input level	95 dB $\mu$ V
Maximum output level	118 dB $\mu$ V** @ -60 dB IMR (DIN45004B)
Maximum gain	45 dB
Noise figure	<2 dB (After combiner)
Monitor output	-30 dB
RF input/output level monitor	Via USB on power supply unit
Supply voltage	24 V DC
Power consumption	5 W MAX
Operating temperature range	0 to 55° C
RF shielding	>70 dB

\*\* 2 channel input non adjacent

## KDM 110 Digital Modulator

The KDM110 is a dual input digital modulator capable of converting two separate input sources to DVB-T, combining and outputting them in the one 7 MHz channel. The KDM110 accepts two separate composite video/stereo audio inputs via the RCA connectors located on the front panel. The KDM110 has the ability to operate in adjacent channel mode, maximising spectrum efficiency. The module may be installed in the Kingray Professional Series 19" rack and programmed using the KLA110 web interface. Alternatively the module can also be deployed as a "stand alone" unit.

### KDM110 Features

- Frequency agile 47-862 MHz
- Resolution 125 kHz steps
- Adjustable output level
- Channel naming
- Logical Channel Numbering (LCN)
- Adjustable bandwidth
- 2/4/8K modulation formats
- Adjustable FEC rate
- High MER >35 dB
- High carrier to noise >50dB
- Adjacent channel capable
- Rack mountable or stand alone
- Remotely contactable via KLA110 within a VPN



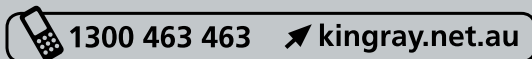
### KDM 110 Specifications

Frequency range	47 – 862 MHz
Modulation format	COFDM 2K, 4K, 8K
Channel bandwidth	6, 7, 8 MHz
Guard intervals	1/4, 1/8, 1/16, 1/32
Constellation	QPSK, 16 and 64 QAM
FEC rate	1/2, 2/3, 3/4, 5/6, 7/8
LCN	AUS, NZ, UK and EU
Output level	85 dBuV
Output level attenuation	-15 dB
Output impedance	75 Ohm
Signal to noise	>50 dB
Modulation error rate	>35
Video	MPEG2 MP@MP, PAL: 720x576 25fps, NTSC: 720x480 30fps
Audio	MPEG1 layer 2
SI generation	PAT, PMT, SDT, NIT
Channel naming	YES
Channel numbering	YES with LCN
Dimensions	240 x 185 x 30 mm
Weight	1.8 kg
Video input	RCA video Ch1, Ch2 75 Ohm
Video input level	0.5-1.7 Vpp (1 V nominal) CVBS PAL/NTSC
Audio	RCA stereo audio L/R Ch1, Ch2
Audio input level	0.6-3 Vpp
RF output	75 Ohm "F" female

### Accessories

PSK24	24 V DC 750 mA power supply
KLE02	KLA110 power cord 240 V
KLE03	RF links for modules
SCREWPK	KR110 rack screw pack
KLE04	Power/data bus cable
KSB01	RF link support bracket
KPLABEL	USB connector label

For more information call or visit us:



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Dealer: