Kingray

KDM401a

QUAD AV TO DIGITAL (DVB-T) MODULATOR

INSTRUCTION MANUAL

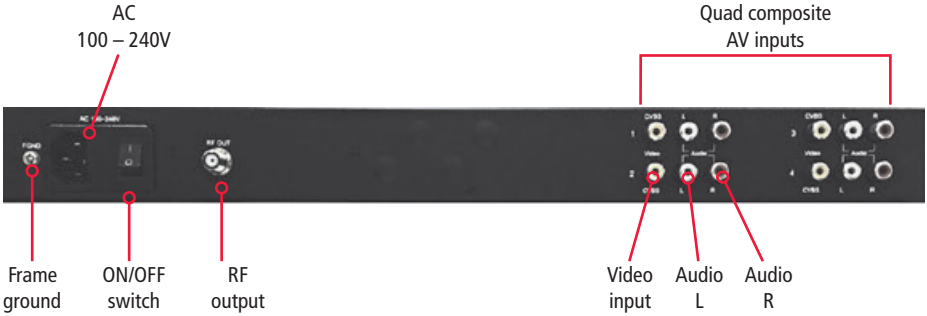
CONTENTS

INTRODUCTION

Thank you for purchasing the Kingray KDM401a SD modulator. Please read this manual carefully prior to installation as it contains information which will ensure you achieve the best performance from your KDM401a.

FRONT

BACK



MAIN FEATURES

- Quad composite video inputs SD DVB-T modulator.
- Multiple video format compatibility including 576i (720 x 576) PAL.
- Audio format compatibility including MPEG-1 Layer 2.
- Fully compliant with DVB-T standard.
- Quick setup when installing multiple modulators.
- Frequency range (Australia): 174 – 820 MHz.
- Frequency range (New Zealand): 470 – 862 MHz.
- Programmable PMT/Video/Audio/PCR PID.
- Aspect Ratio adjustment.
- Pre-programmed channel names.
- Multiple modulator programming.
- Import/export programs via USB.
- Programmable channel name and logical channel number insertion.
- User friendly setup including basic and advanced menus controlled via button and display on LCD or via LAN and PC.

SAFETY INSTRUCTIONS

All the safety and operating instructions should be read before the product is operated.
For your safety ensure all instructions are adhered to.

Cleaning

Unplug the unit from the power point before cleaning. Do not use liquid or aerosol cleansers, use a damp cloth.

Attachments

Do not use attachments that are not recommended by Kingray as they can cause hazards.

Water and moisture

Do not use this product near water.

Mounting

The KDM401a can either be rack or shelf mounted. Ensure the unit is mounted securely so as not to cause harm to anyone or to damage the product by being dislodged.

Power cord protection

Power-supply cords should be routed so they are not pinched or placed where they could cause a trip hazard.

Ventilation

Slots and openings in the housing are provided for ventilation to prevent overheating and ensure reliable operation. These openings should never be blocked or covered by placing the unit on a carpet, flooring, furniture or fabric surface. The unit should not be placed in a built-in structure such as a cupboard or rack without proper ventilation.

Power sources

The KDM401a is designed to be mains powered, connection to the mains should be made using the power lead provided.

Lightning

For added protection of this unit; unplug it from the power point when left unattended or unused for long periods of time. This will protect the product from lightning strikes or power surges.

Object and liquid entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.

Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage requiring service

Unplug this unit and return it to your Kingray distributor or Standard Communications branch for servicing if any of the following occurs:

1. The power-supply cord or plug is damaged

2. Liquid has been spilled, or objects have fallen into the unit.

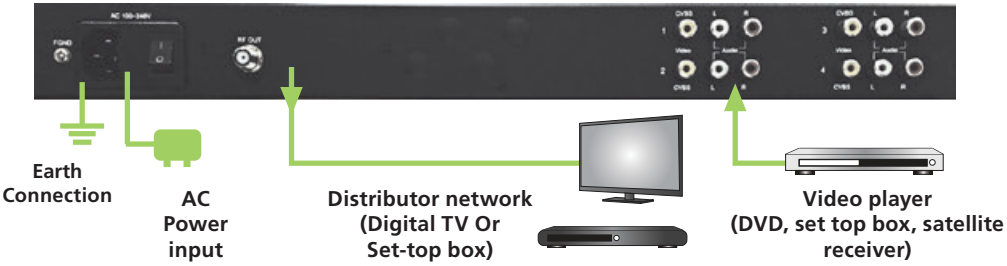
3. The unit has been exposed to rain or water

4. If the unit has been dropped or damaged in anyway

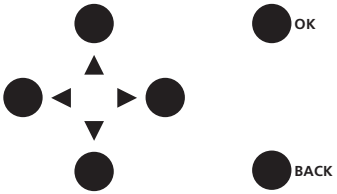
Heat

The unit should be positioned away from any heat sources such as radiators, fireplaces, cooking stoves, or other products (including amplifiers) that produce heat.

INSTALLATION



GENERAL OPERATION



After boot-up press the **OK button** to enter the menus.

Use the ▲ or ▼ arrows to select between basic and advanced menus.

In the **Menu** and **Submenu**, press the ▲ or ▼ arrows to scroll up or down.

In the **Setting**, press the ▲ or ▼ arrows to modify values.

In the **Menu**, press the ◀ or ▶ arrows to scroll forwards or backwards.

In the **Setting**, press the ◀ or ▶ arrows to scroll forwards or backwards.

In the **Menu**, press the **OK button** to select the Submenu.

In the **Submenu**, press the **OK button** to select the setting.

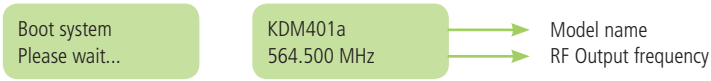
In the **Setting**, press the **OK button** to confirm the setting.

In the **Submenu**, press the **Back button** to return to the Menu.

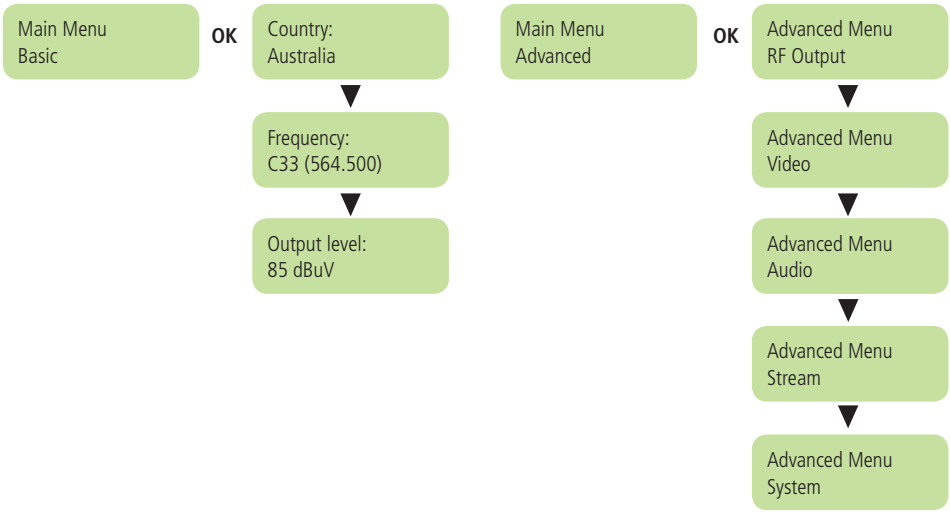
In the **Setting**, press the **Back button** to return to the Submenu.

QUICK MENU GUIDE

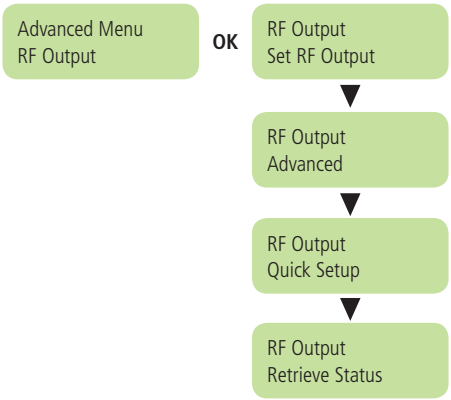
SYSTEM BOOTING



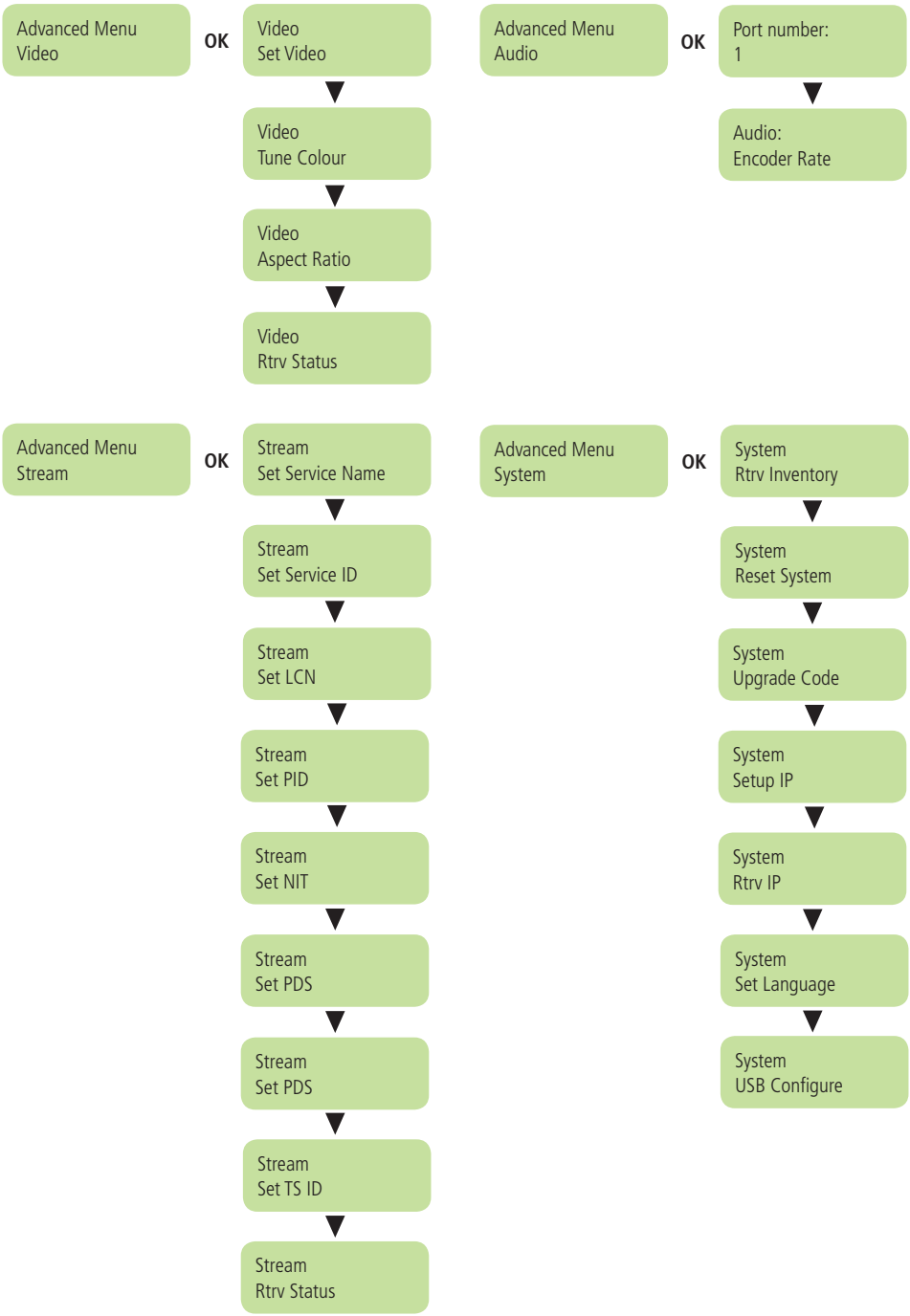
MAIN MENU



SUBMENU IN ADVANCED MENU



SUBMENU IN ADVANCED MENU CONTINUED...



OPERATING ADJUSTMENT VIA LCD AND BUTTONS

For 'Basic and Advanced Menu' settings, press the **OK button** to access the adjustment mode. In this mode '*' will be displayed in the upper right corner. Use the ▲ or ▼ arrows to select parameter values, then press the **OK button** to confirm the setting.

BASIC MENU

Press the **OK button** to enter the menu selecting page, then press the ▲ or ▼ arrows to select basic menu and press the **OK button** again. In this menu you can change basic parameters such as output level and frequency.

Country: Australia	In the basic menu, the first page is 'Country' selection.
Country: * Australia	Press the **OK button** to access the adjustment mode. The LCD display will show '*' in the upper right corner. You can now press the ▲ or ▼ arrows to select the country you require. Press the **OK button** to save.
	Australia, Europe, New Zealand.
Frequency: C33 (564.5 MHz)	Use the same steps as above (C6-C69).
Output Level: 85 dBuV	Use the same steps as above (80-95 dBuV).
Are you sure? y	When the 'Setup RF Output' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select 'y' for yes, all the settings above will be stored in the memory. Select 'n' for no to cancel. Press the **OK button** to confirm.

ADVANCED MENU

RF OUTPUT

RF Output Setup RF Output	Following the main Submenu flow charts (pages 6 and 7) enter the 'Setup RF Output' mode.
Country: Australia	Press the **OK button** to enter the next page for country selection.
Country: * Australia	Press the **OK button** to access the adjustment mode. The LCD display will show an '*' in the upper right corner. You can now press the ▲ or ▼ arrows to select the country you require. Press the **OK button** to save.
	Australia, Europe, New Zealand.
Frequency: C33 (564.5 MHz)	Use the same steps as above to set the Frequency (C6-C69).
Output Level: 85 dBuV	Use the same steps as above to set the Output Level (80-95 dBuV).

Carrier: 8K	Use the same steps as above to set the Carrier (2K, 8K).
Constellation: QAM64	Use the same steps as above to set the Constellation (QAM16*, QAM64).
FEC: 7/8	Use the same steps as above to set the FEC (1/2, 2/3, 3/4, 5/6, 7/8).
Guard Interval: 1/32	Use the same steps as above to set the Guard Interval (1/4, 1/8, 1/16, 1/32).
Are you sure? **y**	When the 'Setup RF Output' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select 'y' for yes, all the settings above will be stored in the memory. Select 'n' for no to cancel. Press the **OK button** to confirm.

* When selecting QAM16 please refer to Appendix B (recommended MPEG2 code rate).
The minimum code rate must be greater than 17.77 Mbps

RF OUTPUT ADVANCED

RF Output Advanced	Following the main Submenu flow charts (pages 6 and 7) enter the 'RF Output Advanced' mode.
Freq Offset: No Offset	Press the **OK button** to enter Freq Offset. Press the **OK button** to access Freq Offset adjustment mode. Use the ▲ or ▼ arrows to set the offset. Press the **OK button** to save. (No offset, +/- 125, 250, 375 kHz)
RF Output: ENABLE	Use the same steps as above to Enable/Disable the RF Output Enable mode.
Are you sure? **y**	When the 'RF Output Advanced' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

QUICK SETUP

RF Output Quick Setup	Following the main Submenu flow charts (pages 6 and 7) enter the 'Quick Setup' mode
MOD Number: 0	Press the **OK button** to access the adjustment mode.
MOD Number: 1	Press ▲ or ▼ arrows to change the Modular Number. **NOTE:** When setting up multiple modulators, each modulator should have a different number to avoid tuning conflicts.

Are you sure? y	When the 'Modulator' number has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y**' for yes, all the settings above will be stored in the memory. Select '**n**' for no to cancel. Press the **OK button** to confirm.

RETRIEVE RF OUTPUT STATUS

Following the main Submenu flow charts (pages 6 and 7) enter the 'Retrieve Status' mode, you can check the parameters of your previous settings in 'Setup RF Output'.

VIDEO

Video Set Video	Following the main Submenu flow charts (pages 6 and 7) enter the 'Set Video' mode. Press the **OK button** to enter the Submenu.
Port Number: 1	Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to save.
Encoder Rate: 6M	Press the **OK button** to enter encoder the adjustment mode. Use the ▲ or ▼ arrows to set the Encoder rate, press the **OK button** to save.
Are you sure? y	When the 'Set Video' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Tune Color

Video Tune Color	Following the main submenu flow charts (pages 6 and 7) enter the 'Video Tune Color' mode. Press the **OK button** to enter the Submenu.
Port Number: 1	**PRESS** the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to save. **NOTE:** Use the same steps in Tune Color for ports 2-4.
Cont: 20	Press the **OK button** to enter the adjustment mode. Use the ▲ or ▼ arrows to set the first digit, use ▶ arrow to select the second digit, use the ▲ or ▼ arrows to set. Press the **OK button** to save. (0-50).
Brightness: 21	Use the same steps as above to set – Bright (0-50).
Hue: 25	Use the same steps as above to set – Hue (0-50).
Saturation: 35	Use the same steps as above to set – Saturation (0-50).
Sharpness: 14	Use the same steps as above to set – Sharpness (0-50).
Are you sure? y	When the 'Tune Color' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Aspect Ratio

Video Aspect Ratio	Following the main submenu flow charts (pages 6 and 7) enter the 'Aspect Ratio' mode. Press the **OK button** to enter the Submenu.

Video Port Number: 1	Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to save.
Aspect ratio 4:3 **y**	Press the **OK button** to enter the edit mode. Use the ▲ or ▼ arrows to change the aspect ratio from 4:3 to 16:9.
Are you sure? **y**	When the 'Aspect Ratio' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

RETRIEVE VIDEO STATUS

Following the main Submenu flow charts (pages 6 and 7) enter the 'Video Retrieve Status' mode, you can check the parameters of your previous settings in 'Video'.

AUDIO

Advanced Menu Audio	Following the main Submenu flow charts (pages 6 and 7) enter the 'Advanced Menu System'. Press the **OK button** to enter the Submenu.
Port Number: 1	Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to save. **NOTE:** Use the same steps in Audio for ports 2-4.
Encoder Rate: 128K	Press the **OK button** to enter the encoder adjustment mode. Use the ▲ or ▼ arrows to set the Encoder rate, press the **OK button** to save. (128K fixed).
Are you sure? **y**	When the 'Audio' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y**' for yes, all the settings above will be stored in the memory. Select '**n**' for no to cancel. Press the **OK button** to confirm.

STREAM

Advanced Menu Stream	Following the main Submenu flow charts (pages 6 and 7) enter the 'Stream Set Service Name' mode. Press the **OK button** to enter the Submenu.
Stream Set Service Name	Press the **OK button** to enter the next page of the menu.
Service Name: Custom	To access the 'Custom' or 'Quick setup' mode, press the **OK button.** For Quick setup mode using pre-programmed channel names, refer to the included channel addendum.
Port Number: 1	Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to enter the next page to set the service name. **NOTE:** Use the same steps in Stream Set Service Name for ports 2-4.
Service Name: KINGRAY SD MOD	Press the **OK button** to enter the edit mode. Use the ▲ or ▼ arrows to edit the first character of the Service Name. 0-9 and A-Z can be used up to 15 characters. Press the ▶ arrow to advance to the next character and the ▲ or ▼ arrows to set. Press the **OK button** to save.
Are you sure? **y**	When the 'Stream Service Name' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y**' for yes, all the settings above will be stored in the memory. Select '**n**' for no to cancel. Press the **OK button** to confirm.

Set Service ID

Stream
Set Service

Press the **OK button** to enter the next page of the menu.

Port Number:
1

Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to enter the next page to set the service name. Use the same steps in Stream Set Service Name for ports 2-4.

Service ID:
100

Press the **OK button** to enter the edit mode. Use the ▲ or ▼ arrows to edit the first character of the Service Name. Use values between 1-65535. Press the ▶ arrow to advance to the next character and the ▲ or ▼ arrows to set. Press the **OK button** to save.

Are you sure?
y

When the 'Stream Service ID' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Set LCN

Stream
Set LCN

Following the main Submenu flow charts (pages 6 and 7) enter the 'Stream Set LCN' mode. Press the **OK button** to enter the Submenu.

Port Number:
1

Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to enter the next page to set the LCN.
NOTE: Use the same steps in Set LCN for ports 2-4.

LCN:
200

Press the **OK button** to enter LCN adjustment mode. Press the **OK button** to access edit mode. Now press the ▲ or ▼ arrows to set the first number of the LCN. Press the ▶ arrow to advance to the next number and the ▲ or ▼ arrows to set. Press the **OK button** to save (1-1023).

Are you sure?
y

When the 'Stream Set LCN' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Set PID

Stream
Set PID

Following the main Submenu flow charts (pages 6 and 7) enter the 'Stream Set PID' mode. Press the **OK button** to enter the Submenu.

Port Number:
1

Press the **OK button** to access port number adjustment mode. Use the ▲ or ▼ arrows to select the port number, press the **OK button** to enter the next page to set the PID values.
NOTE: Use the same steps in Set PID for ports 2-4.

PMT:
1328

Press the **OK button** to enter the 'Stream Set PID' edit mode. Set the first number of the PID using the ▲ or ▼ arrows, use the ▶ arrow to advance to the next digit. Press the **OK button** to save (32-8190 excluding 71).

PCR:
769

Use the same steps as above to set the PCR (32-8190 excluding 71).

Video:
769

Use the same steps as above to set the Video (32-8190 excluding 71).

Audio 770	Use the same steps as above to set the Audio (32-8190 excluding 71).
Are you sure? **y**	When the 'PID' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Set NIT

Stream Set NIT	Following the main Submenu flow charts (pages 6 and 7) enter the 'Stream Set NIT' mode. Press the **OK button** to enter the Submenu.
Org Network ID: 8228	Press the **OK button** to enter the 'Original Network ID' edit mode; use the ▲ or ▼ arrows to set ID. Press the ▶ arrow to advance to the next character and the ▲ or ▼ arrows to set. Press the **OK button** to save (1-65535).
Network ID: 1	Use the same steps as above to set the Network ID (1-65535).
Network Name: NETWORK	Use the same steps as above to enter the Network Name (A-Z, 0-9, 7 Characters).
Network Ver: 1	Use the steps above to enter the Network Version (0-9).
Are you sure? **y**	When the 'NIT' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Set PDS

Stream Set PDS	Following the main Submenu flow charts (pages 6 and 7) enter the 'Stream Set PDS' mode. Press the **OK button** to enter the Submenu.
Private Data: 00003200	Press the **OK button** to enter edit mode and use the ▲ or ▼ arrows to set the first Private Data number. Press the ▶ arrow to advance to the next character and the ▲ or ▼ arrows to set. Press the **OK button** to save (8 Hex). **NOTE:** Australia: 00003200, New Zealand: 00000037
Are you sure? **y**	When the 'Stream Set PDS' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Set TS ID

Stream Set TS ID	Following the main Submenu flow charts (pages 6 and 7) enter the 'Stream Set TS ID' mode. Press the **OK button** to enter the Submenu.
TS ID: 1	Press the **OK button** to enter edit mode and use the ▲ or ▼ arrows to set the first TS ID number. Press the ▶ arrow to advance to the next character and the ▲ or ▼ arrows to set. Press the **OK button** to save (1-65535).

Are you sure? y	When the 'Stream Set TS ID' has been set, there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

RETRIEVE STREAM STATUS

Following the main Submenu flow charts (pages 6 and 7) enter the 'Advanced Menu System'. In 'Retrieve Status' mode. Press **OK button** to check the parameters of your previous settings in 'Stream'.

SYSTEM

Advanced Menu System	Following the main Submenu flow charts (pages 6 and 7) enter the 'Advanced Menu System'. Press the **OK button** to enter the Submenu.
System Rtrv Inventory	Press the **OK button** to enter the next page, press the **OK button** again to check both hardware and software versions.

Reset System

System Reset System	Following the main Submenu flow charts (pages 6 and 7) enter the 'System Reset System' mode. Press the **OK button** to enter the Submenu.
Reset Mode Hard/Soft Reset	Press the **OK button** to enter 'Reset Mode'. Use the ▲ or ▼ arrows to select between either Hard or Soft Reset. Press the **OK button** to enter the next page.
Reset Mode Reset to Default	Press the **OK button** to enter 'Reset to Default'. There will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, the system will be reset to default. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Upgrade Code

System Upgrade Code	Following the main Submenu flow charts (pages 6 and 7) enter the 'System Reset System' mode. Press the **OK button** to perform the upgrade.
Process Command Please wait...	Once upgrade is complete, press the **OK button** to reboot.

Setup IP

System Setup IP	Following the main Submenu flow charts (pages 6 and 7) enter the 'System Setup IP'. Press the **OK button** to enter the Submenu.
Enable DHCP: DISABLE	Press the **OK button** to enter 'Enable DHCP' mode . Press the **OK button** to enter edit mode. Press ▲ or ▼ arrows to Enable/Disable the DHCP. Press the **OK button** to save.
IP address: 192.168.1.168 Netmask: 255.255.255.0 Default Gateway: 192.168.1.3	Press the **OK button** to access IP adjustment mode. Set the first number of the IP address/ Netmask/Default Gateway using the ▲ or ▼ arrows, then use the ▶ arrow to advance to the next digit. Press the **OK button** to save (0-999). **NOTE:** Repeat above steps for Netmask and Default Gateway.

Are you sure?
y

Press the **OK button** to enter 'Reset to Default'. There will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, the system will be reset to default. Select '**n'** for no to cancel. Press the **OK button** to confirm.

Retrieve System IP

Following the main Submenu flow charts (pages 6 and 7) enter the 'System Retrieve IP'. In 'Retrieve Status' mode. Press **OK button** to check the parameters of your previous settings in 'Setup IP'.

SET LANGUAGE

System
Set Language

Following the main Submenu flow charts (pages 6 and 7) enter the 'Set Language'. Press the **OK button** to enter the Submenu.

Language:
English

Press the **BACK button** to exit.

USB CONFIGURATION

System
USB Configuration

Following the main Submenu flow charts (pages 6 and 7) enter the USB configuration. Now insert the USB memory stick into the USB port and then press the **OK button.**

USB Configure
Searching USB

The following message will appear.

USB Configure
Export File

Press the **OK button** to enter 'Edit Mode'. Use the ▲ or ▼ arrows to select either Export or Import.

USB Configure
Import File

When the option has been selected, press the **OK button.**

Are you sure?
y

When the USB Configuration has been set,there will be a confirmation on the display. Press ▲ or ▼ arrows to select YES or NO. Select '**y'** for yes, all the settings above will be stored in the memory. Select '**n'** for no to cancel. Press the **OK button** to confirm.

OPERATING ADJUSTMENT VIA WEB BROWSER

ETHERNET CONNECTION

The web browser will allow the user to fully configure the KDM401a unit via an Ethernet connection. Your computer will require a static IP address in the range 192.168.1.XXX

1. Connect the PC to the LAN port of the KDM401a unit. See below diagram.

2. The configuration process must be made in local mode, although later you will be able to access the unit from any PC in the LAN.
3. Launch the web browser and delete browsing history.

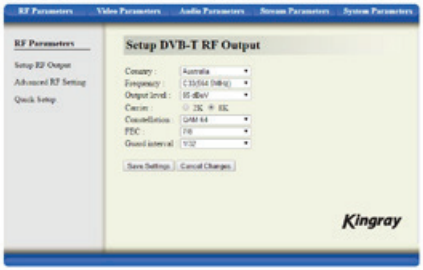
4. Enter the KDM401a IP address.

5. Click on ENTER to access the welcome screen. Enter the default password '1234'.

RF Parameters

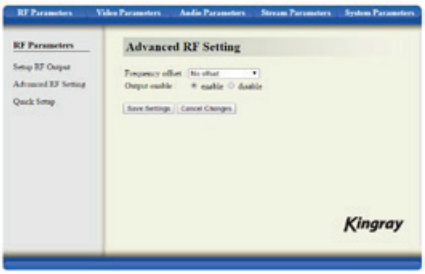
Setup RF output

Using the interface below set the required RF settings, once complete click Save Settings to save.



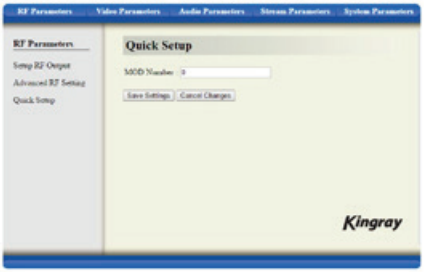
Advanced RF setting

Using the interface below set the advanced RF settings if required, click Save Settings to save.



Quick Setup

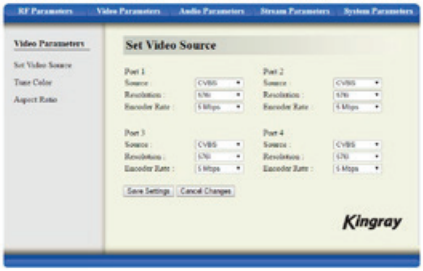
Using the interface below set the modulation number from 0 to 10 when using multiple modulators, once complete click Save Settings to save.



Video Parameters

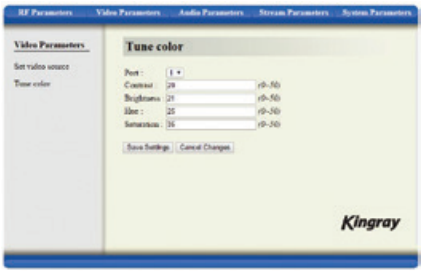
Set video source

Using the interface below set the source, resolution and encoder rate, once complete click Save Settings to save.



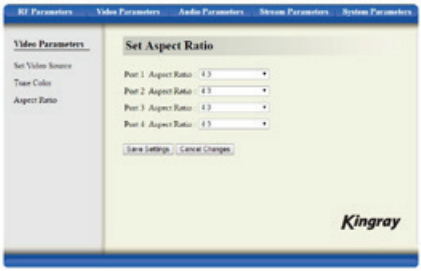
Tune color

Using the interface below set the contrast, brightness, hue and saturation for each port, click Save Settings to save.



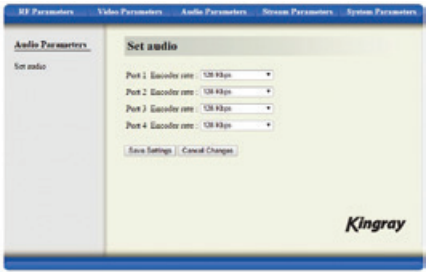
Aspect Ratio

Using the interface below set the Aspect Ration to 4:3 or 16:9, once complete click Save Settings to save.



Audio Parameters

Using the interface below set the encoder rate of each port, click Save Settings to save.



Stream Parameters

Set Service Name

Using the interface below set the service name of each port, click save Settings to save.

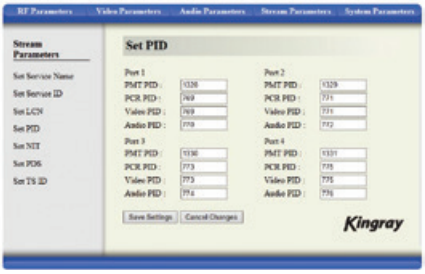
Highlight and delete the current name, when typing in the new name, the first letter will display a drop down list of any names that begin with that letter, if it is in the database. Just click on the name that you wish to use.

Set LCN

Using the interface below set the LCN for each port, click Save Settings to save.

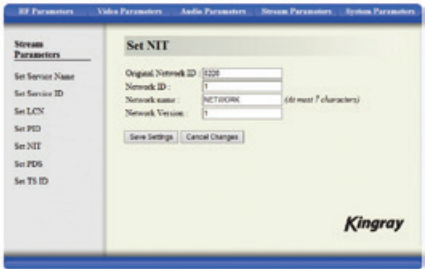
Set PID

Using the interface below set the PMT, PCR, Video and Audio PID for each port, click Save Settings to save.



Set NIT

Using the interface below set the original network ID, network ID,network name and network version, click Save Settings to save.



Set PDS

Using the interface below set the PDS, click Save Settings to save.

Set TSID

Using the interface below set the TSID, click Save Settings to save.

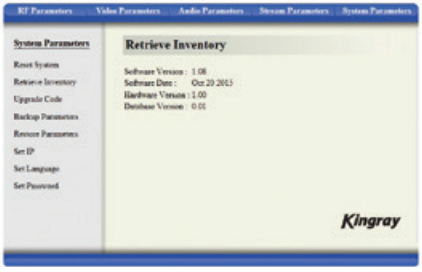
System Parameters

System Reset

Using the interface below the system can be reset.

Retrieve Inventory

Using the interface below the software version, software date, hardware version and database version can be retrieved.

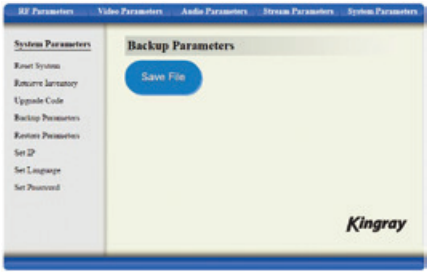


Upgrade Code

Using the interface below the code can be upgraded.

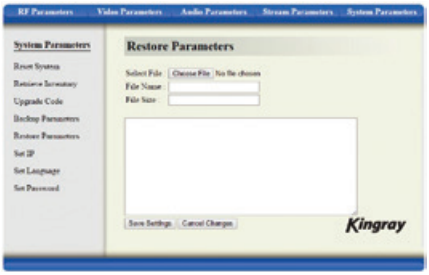
Backup Parameters

Using this interface the parameters can be backed up.



Restore Parameters

Using this interface the parameters can be restored from a stored file.



Set IP

Using this interface the IP address can be changed.

Set Language

Using this interface the language used can be set.

Set Password

Using this interface the password can be set.

CHANNEL TABLE LIST – AUSTRALIA

APPENDIX A

Channel	Channel Frequency MHz	Dig. Central Frequency MHz	Channel	Channel Frequency MHz	Dig. Central Frequency MHz	Channel	Channel Frequency MHz	Dig. Central Frequency MHz
Band III			36	582–589	585.5	LTE		
6	174–181	177.5	37	589–596	592.5	52	694–701	697.5
7	181–188	184.5	38	596–603	599.5	53	701–708	704.5
8	188–195	191.5	39	603–610	606.5	54	708–715	711.5
9	195–202	198.5	Band V			55	715–722	718.5
9A	202-209	205.5	40	610–617	613.5	56	722–729	725.5
10	209–216	212.5	41	617–624	620.5	57	729–736	732.5
11	216–223	219.5	42	624–631	627.5	58	736–743	739.5
12	223–230	226.5	43	631–638	634.5	59	743–750	746.5
Band IV			44	638–645	641.5	60	750–757	753.5
27	519–526	522.5	45	645–652	648.5	61	757–764	760.5
28	526–533	529.5	46	652–659	655.5	62	764–771	767.5
29	533–540	536.5	47	659–666	662.5	63	771–778	774.5
30	540–547	543.5	48	666–673	669.5	64	778–785	781.5
31	547–554	550.5	49	673–680	676.5	65	785–792	788.5
32	554–561	557.5	50	680–687	683.5	66	792–799	795.5
33	561–568	564.5	51	687–694	690.5	67	799–806	802.5
34	568–575	571.5				68	806–813	809.5
35	575–582	578.5				69	813–820	816.5

CHANNEL TABLE LIST – NEW ZEALAND

APPENDIX A

Channel	Channel Frequency MHz	Dig. Central Frequency MHz	Channel	Channel Frequency MHz	Dig. Central Frequency MHz	Channel	Channel Frequency MHz	Dig. Central Frequency MHz
Band IV			Band V			E54	734–742	738
E21	470–478	474	E38	606–614	610	E55	742–750	746
E22	478–486	482	E39	614–622	618	E56	750–758	754
E23	486–494	490	E40	622–630	626	E57	758–766	762
E24	494–502	498	E41	630–638	634	E58	766–774	770
E25	502–510	506	E42	638–646	642	E59	744–782	778
E26	510–518	514	E43	646–654	650	E60	782–790	786
E27	518–526	522	E44	654–662	658	E61	790–798	794
E28	526–534	530	E45	662–670	666	E62	798–806	802
E29	534–542	538	E46	670–678	674	E63	806–814	810
E30	542–550	546	E47	678–686	682	E64	814–822	818
E31	550–558	554	E48	686–694	690	E65	822–830	826
E32	558–566	562	LTE			E66	830–838	834
E33	566–574	570	E49	694–702	698	E67	838–846	842
E34	574–582	578	E50	702–710	706	E68	846–854	850
E35	582–590	586	E51	710–718	714	E69	854–862	858
E36	590–598	594	E52	718–726	722			
E37	598–606	602	E53	726–734	730			

CHANNEL TABLE LIST – EUROPE

APPENDIX A

Channel	Channel Frequency MHz	Dig. Central Frequency MHz	Channel	Channel Frequency MHz	Dig. Central Frequency MHz	Channel	Channel Frequency MHz	Dig.Central Frequency MHz
Band III			Band V			LTE		
E5	174–181	177.5	E38	606–614	610	E49	694–702	698
E6	181–188	184.5	E39	614–622	618	E50	702–710	706
E7	188–195	191.5	E40	622–630	626	E51	710–718	714
E8	195–202	198.5	E41	630–638	634	E52	718–726	722
E9	202–209	205.5	E42	638–646	642	E53	726–734	730
E10	209–216	212.5	E43	646–654	650	E54	734–742	738
E11	216–223	219.5	E44	654–662	658	E55	742–750	746
E12	223–230	226.5	E45	662–670	666	E56	750–758	754
Band IV			E46	670–678	674	E57	758–766	762
E21	470–478	474	E47	678–686	682	E58	766–774	770
E22	478–486	482	E48	686–694	690	E59	744–782	778
E23	486–494	490				E60	782–790	786
E24	494–502	498				E61	790–798	794
E25	502–510	506				E62	798–806	802
E26	510–518	514				E63	806–814	810
E27	518–526	522				E64	814–822	818
E28	526–534	530				E65	822–830	826
E29	534–542	538				E66	830–838	834
E30	542–550	546				E67	838–846	842
E31	550–558	554				E68	846–854	850
E32	558–566	562						
E33	566–574	570						
E34	574–582	578						
E35	582–590	586						
E36	590–598	594						
E37	598–606	602						

RECOMMENDED MPEG-2 CODE RATE

APPENDIX B

Modulation Constellation	FEC	7 MHz Bandwidth				8 MHz Bandwidth			
		Guard Interval				Guard Interval			
		1/4	1/8	1/16	1/32	1/4	1/8	1/16	1/32
16QAM	1/2	Weak ability of error correcting and anti-interference in this area							
	2/3								16.09
	3/4						16.59	17.56	18.1
	5/6		16.12	17.07	17.59	16.59	18.43	19.25	20.11
	7/8		16.93	17.93	18.47	17.42	19.35	20.49	21.11
64QAM	1/2						19.59	17.56	18.1
	2/3		19.35	20.49	21.11	19.91	22.12	23.42	24.13
	3/4	19.59	21.77	23.05	23.75	22.39	24.88	26.35	27.14
	5/6	21.77	24.19	25.61	26.39	24.88	27.65	29.27	30.16
	7/8	22.86	25.40	26.89	27.71	26.13	29.03	30.74	31.67

SPECIFICATIONS

Video input

Video input	CVBS
Video input level	0.5–2 Vpp
Video mode	PAL
Input connector	RCA

Audio input

Audio input	Stereo
Audio input level	0.4–2.5 Vpp
Input connectors	RCA L, R

Modulation

Video resolution	PAL 720 x 576 @ 25 fps
Video compression	MPEG2 MP@ML
Audio compression	MPEG1 Layer II
PSI/SI generation	PID, NIT, PDS and TS ID
LCN	Yes
Standard	ETSI EN 300 744 V1.5.1
Carrier	2K, 8K
Guard intervals	1/4, 1/8, 1/16, 1/32
Code rate	1/2, 2/3, 3/4, 5/6, 7/8
Constellations	16 QAM, 64 QAM

Output

Frequency range 470–862 MHz (NZ)	174–820 MHz (Aus)
Output level	80–95 dBµV
Output impedance	75 Ω
Channel bandwidth	7, 8 MHz
Output level adjustment	up to 15 dB
MER	> 38 dB typ.
Fine tuning	+/- 125, 250, 375 kHz
Connector type	'F' Female
USB	Import/export files

General

Power Supply	110 – 240 V AC, 50 – 60 Hz
Temperature Range	0 ~ +45°C

STANDARD COMMUNICATIONS 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.

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, Australia.
Tel: (02) 8867 6000 Fax: (02) 8867 6199
Email: 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 illegal.

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
Standalone digital modulators	2 years

1300 463 463 **kingray.net.au**

A division of Standard Communications Pty Ltd.
Head Office: PO Box 96, Winston Hills, NSW 2153, Australia.
New Zealand: PO Box 58446 Botany, Auckland, 2163, NZ. T: (09) 274 0955.
All international enquiries email: export@gme.net.au