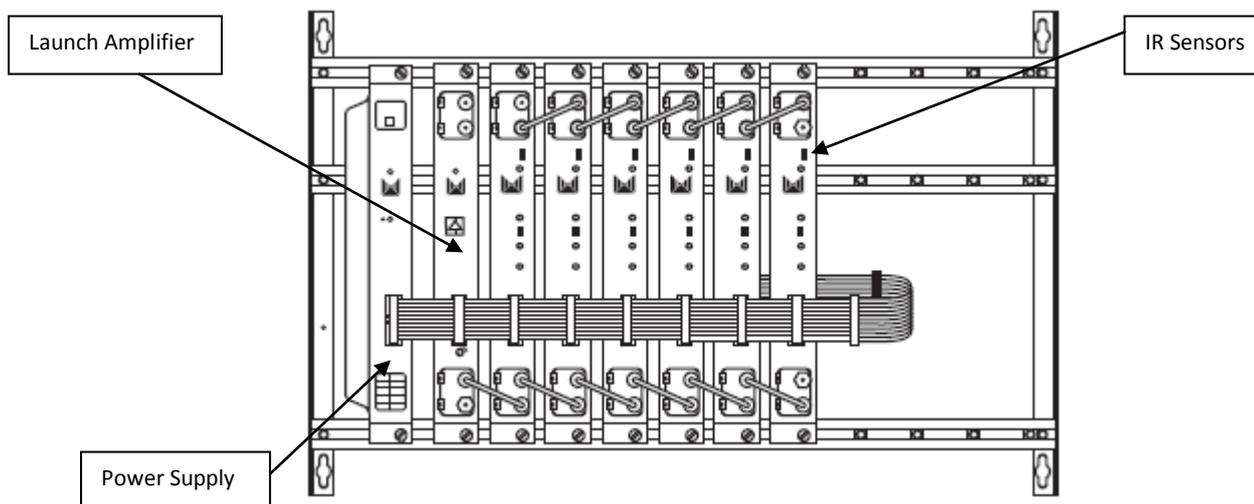


## Technote 5: Setting up RG-101 COFDM Regenerators

RG-101 is a fully agile COFDM to COFDM transport stream regenerator which is designed to correct and rebuild a poor quality Terrestrial signal back to quasi-transmission standard. It also allows the user to change various parameters of the regenerated COFDM stream at the output.



**IMPORTANT:** Layout of the modules must be as shown above. Power Supply (FA-310/312) must be located on the far left hand side and launch amplifier (PA-720) must be the next module in the chain. Please look at the above picture.

## **AIM PROGRAMMER TO IR SENSOR LOCATED ON EACH REGENERATOR WHEN PROGRAMMING**

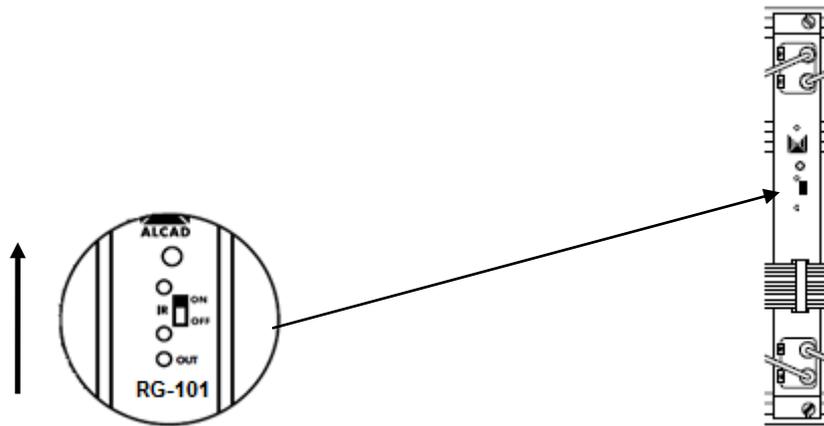
### Programming of Modules

Ensure the following prior to programming:

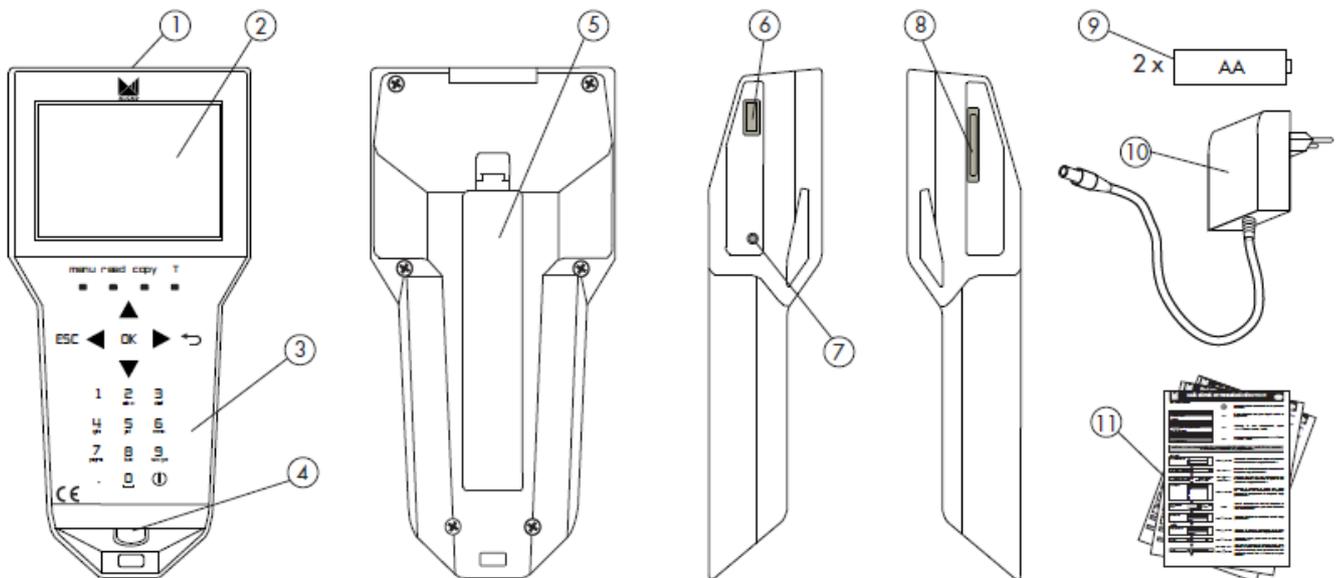
- It is necessary to connect all the modules to the support frame SP-226 (code 9120130) for the system to function.
- It is also recommended that you make the earth connection to the building using a cable with a section of at least 4 mm.
- Ensure that you have the Alcad programmer PS-011 with **firmware version 1.4** or later.
- Power supply/Control cable must be plugged into each module. **DO NOT ADD OR REMOVE** modules without disconnecting mains supply power from wall outlet. Always disconnect the equipment, and then reconnect it to the mains supply so that the amplifier recognises the new module. Failure to do so can cause equipment to fail.

## 1.0 Programming of the Regenerator

To program the regenerator, place the programming switch in the ON (upward) position which can be seen from picture below. When you turn the switch in the “ON” position the programming indicator will light up. While the programming indicator remains lit, the regenerator is ready to receive data from the PS programmer. When the regenerator has been programmed, programming mode should be deactivated by placing the switch in the “OFF” position. The programming indicator light will go out.



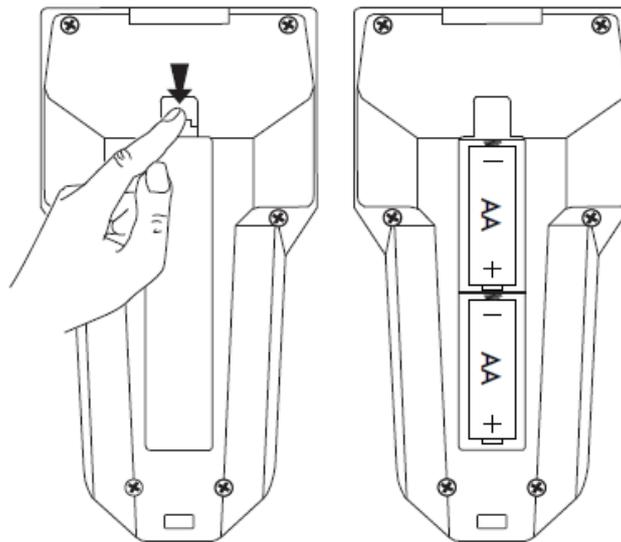
To start programming the equipment, Press any button on the PS-011 programmer to turn on the programmer. The following screenshot below will appear.



1. Infrared transmitter/receiver
2. Screen
3. Keypad
4. Connector for charging
5. Batteries cover
6. USB connector for external memory

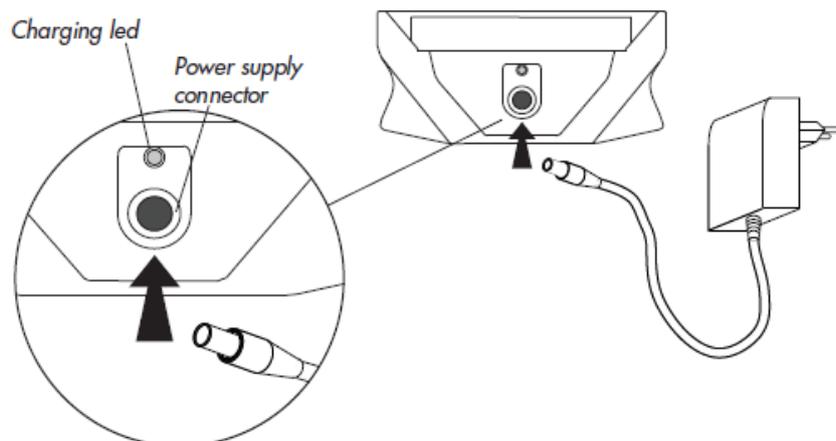
7. RESET button
8. Slot for SD memory cards
9. Batteries
10. Charger
11. Fast programming guides

Before turning on the remote for the first time, make sure that the rechargeable batteries are positioned correctly. When you have done this, connect the programmer to the mains supply and leave it connected until a complete charging cycle has been completed.



During the charging process, the icon of a battery being charged will appear on the screen and the LED located next to the power supply connector will remain lit up. When the batteries are completely charged, the LED will blink and the icon of a fully charged battery will appear on the screen.

The rechargeable batteries supplied with the programmer are charged using the DC charger which is also supplied with the PS-011.



The PS-011 programmer will work when connected to the mains supply whether the batteries are installed or not. Note also that if the batteries of the programmer run down and you do not have access to a 230V plug, you can use AA alkaline batteries instead. You must bear in mind, however, that the autonomy of this type of battery may be considerably reduced.

On/off: the PS-011 programmer is turned both on and off by pressing the key  once. . It can also be turned off from any of its screens. When the programmer is turned off, the screen automatically becomes blank. It is important to know that if the remote control is turned off during the programming of a device and then immediately turned on again, it does not restart at the point it was at when turned off, but rather reverts to the main menu.

Located in the top part of the keypad are the **menu**, **read**, **Copy** and **T** function keys.

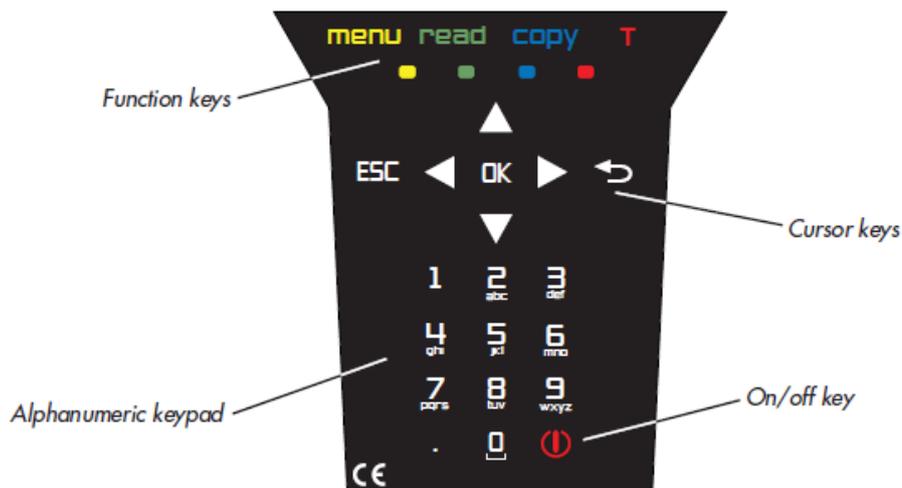
- menu:** reveals the options available within the various screens.
- read:** allows you to read the data saved in the modules to be programmed.
- copy:** is used for the transmission of the data of the module.
- T:** transmits the information from the programmer to the equipment shown in the field selected on the screen.

The cursor keys    , , **OK** y **ESC**, used for navigating through the menus of the programmer software, are described below.



- :** cursor keys used for moving around within a screen.
- : used for erasing any characters entered by mistake.
- OK:** this key is used whenever you wish to select an option or validate a value you have entered.
- ESC:** allows you to exit from the lists of options or to go backwards through the screens of the programming environment.

The alphanumeric keypad is used to enter numbers and letters. Pressing a key once enters the corresponding number on the screen. By pressing it again repeatedly, the letters which appear under the number are entered.



Information regarding the present state of the batteries as well as the current date and time is permanently displayed on the blue band in the upper part of the screen.

The state of the batteries is shown as a percentage, indicating the remaining battery life. If, however, the programmer is being used while connected to the mains supply but with charged batteries, the icon displayed will be completely green. If the batteries have been removed and the programmer is connected to the mains, the edge of the icon will be shown in red.



Immediately beneath the blue band is a black band in which the name of the currently active menu is displayed. The rest of the screen, with a white background, shows the various options available in the current menu (shown in the black band at the top of the screen).

When the programmer is turned on, it opens at the main menu and shows the general options of the PS-011, as follows:

- a. *Select Series*: gives access to the programming options of various types of ALCAD equipment.
- b. *NIT table /NIT table reset*: includes all the options related to generating and deleting the NIT table of an installation.
- c. *Manage files*: is used for handling the files contained in memory.
- d. *Configure PS Programmer*: gives access to all the setup options of the programmer, such as choice of language, setting of time and date, management of series to be programmed, as well as other options of a general nature.



# QUICK PROGRAMMING GUIDE 905-RG



## Start/on



Press the Power On key of the PS-011 to start up the system.

Main menu	
Select Series	
NIT table	

OK

Choose *Select Series* to select the programming series.

Select series	
905-RG Regenerator DVB-T/H	
912-TT Transmodulator DVB-S/S2 a DVB-T	

OK

Select the series: 905-RG Regenerator DVB-T/H.

905-RG Regenerator DVB-T/H	
Configure module	

OK

To commence programming the module, select *Configure module*.

**Set the programming switch of the 905-RG module to the ON position. The programming indicator will now light up and remain lit.**

## Input

Standard	DVB-T	▼
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READ

Standard DVB-T/H for input channel.

Program by	Channel	▼
	Channel	
	Frequency	

OK+▼▲+OK+T

Select the programming mode for the input of the module: channel or frequency. Then press T to transmit.

Channel table	BG CCIR	▼
---------------	---------	---

OK+▼▲+OK+T

Select the standard for the input channel. Then press T to transmit.

Channel	21	▼
---------	----	---

Keypad + T

OK+▼▲+OK+T

If the input is programmed by channel, it is possible to enter the channel using the numeric keypad. Alternatively, you can select a channel from the pull-down list. When you have confirmed your choice by pressing OK, press T to transmit.

Frequency	471.25	▼	MHz
-----------	--------	---	-----

Keypad + T

If the input is programmed by frequency, enter the frequency using the numeric keypad. Then press T to transmit.

Offset	0	▼	MHz
	0		
	+1/6		
	-1/6		
	+2/6		
	-2/6		
	+3/6		
	-3/6		

OK+▼▲+OK+T

Select the offset of the input channel from the options available. Then press T to transmit.

Bandwidth	8	▼	MHz
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Keypad + T

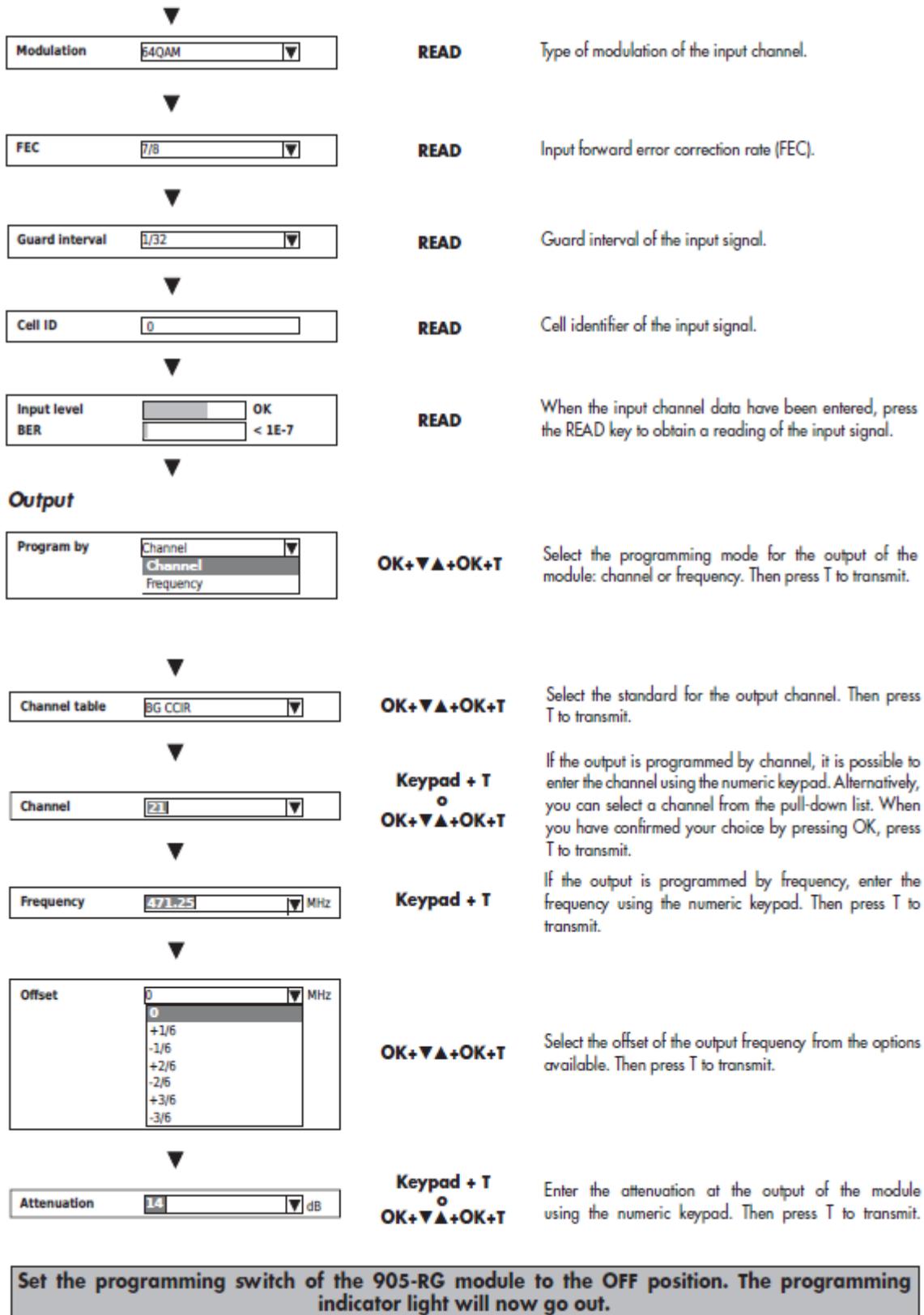
OK+▼▲+OK+T

Select the bandwidth of the input channel: 6, 7 or 8 MHz. You can do this using either the numeric keypad or the pull-down menu. Then press T to transmit.

Mode	BK	▼
------	----	---

READ

Number of carriers mode in the input channel.



You have now finished programming the Regenerator therefore programming mode should be deactivated by placing the switch in the OFF (down) position. The programming indicator light will go out.



# AUSTRALIAN DIGITAL/ANALOGUE FREQUENCY TABLE

Band	Channel	Aust. Ch.	Picture carrier MHz	Digital Freq. MHz	Sound carrier MHz	
I		0	46.25		51.75	
		1	57.25		62.75	
		2	64.25		69.75	
Low S-Band (SI)	S2		112.25		117.75	
	S3		119.25		124.75	
	S4		126.25		131.75	
	S5		133.25		138.75	
	S6		140.25		145.75	
	S7		147.25		152.75	
	S8		154.25		159.75	
	S9		161.25		166.75	
	S10		168.25		173.75	
	III		6	175.25	177.5	180.75
		7	182.25	184.5	187.75	
		8	189.25	191.5	194.75	
		9	196.25	198.5	201.75	
		9a	197.25	205.5	202.75	
		10	209.25	212.5	214.75	
		11	216.25	219.5	221.75	
		12	223.25	226.5	228.75	
High S-Band (SI-1)		S11		231.25		236.75
		S12		238.25		243.75
		S13		245.25		250.75
		S14		252.25		257.75
	S15		259.25		264.75	
	S16		266.25		271.75	
	S17		273.25		278.75	
	S18		280.25		285.75	
	S19		287.25		292.75	
	S20		294.25		299.75	
	Hyperband (SII)	S21		303.25		308.75
S22			310.25		315.75	
S23			317.25		322.75	
S24			324.25		329.75	
S25			331.25		336.75	
S26			338.25		343.75	
S27			345.25		350.75	
S28			352.25		357.75	
S29			359.25		364.75	
S30			366.25		371.75	
S31			373.25		378.75	
S32			380.25		385.75	
S33			387.25		392.75	
S34			394.25		399.75	
S35			401.25		406.75	
S36			408.25		413.75	
S37			415.25		420.75	
S38			422.25		427.75	
S39			429.25		434.75	
S40			436.25		441.75	
S41			443.25		448.75	

Band	Channel	Aust. Ch.	Picture carrier MHz	Digital Freq. MHz	Sound carrier MHz	
UHF	E 21		471.25		476.75	
	E 22		479.25		484.75	
	E 23		487.25		492.75	
	E 24		495.25		500.75	
	E 25		503.25		508.75	
	E 26		511.25		516.75	
	E 27		519.25		524.75	
			28	527.25	529.5	532.75
			29	534.25	536.5	539.75
			30	541.25	543.5	546.75
			31	548.25	550.5	553.75
			32	555.25	557.5	560.75
			33	562.25	564.5	567.75
			34	569.25	571.5	574.75
			35	576.25	578.5	581.75
			36	583.25	585.5	588.75
			37	590.25	592.5	595.75
			38	597.25	599.5	602.75
			39	604.25	606.5	609.75
			40	611.25	613.5	616.75
			41	618.25	620.5	623.75
			42	625.25	627.5	630.75
			43	632.25	634.5	637.75
			44	639.25	641.5	644.75
			45	646.25	648.5	651.75
			46	653.25	655.5	658.75
			47	660.25	662.5	665.75
			48	667.25	669.5	672.75
			49	674.25	676.5	679.75
			50	681.25	683.5	686.75
			51	688.25	690.5	693.75
			52	695.25	697.5	700.75
			53	702.25	704.5	707.75
			54	709.25	711.5	714.75
			55	716.25	718.5	721.75
			56	723.25	725.5	728.75
			57	730.25	732.5	735.75
			58	737.25	739.5	742.75
			59	744.25	746.5	749.75
			60	751.25	753.5	756.75
			61	758.25	760.5	763.75
			62	765.25	767.5	770.75
			63	772.25	774.5	777.75
			64	779.25	781.5	784.75
			65	786.25	788.5	791.75
			66	793.25	795.5	798.75
			67	800.25	802.5	805.75
			68	807.25	809.5	812.75
			69	814.25	816.5	819.75

**Bandwidth setting for Australia MUST ALWAYS be set to 7MHz.**