Technote 3: Setting up PC-525 Channel Processors

PC-Series are fully agile Channel processors for the VHF/UHF band. The channel processor has a built-in double FOS filter, so that it is possible to program the output with adjacent channels.
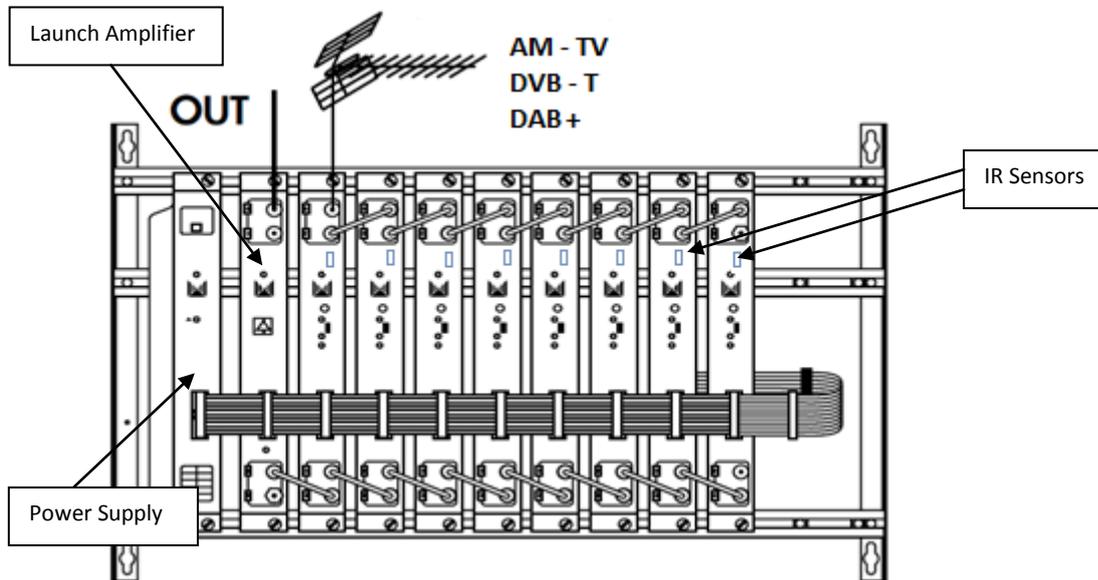
IMPORTANT: Layout of the modules must be as shown above. Power Supply (FA-310 or FA-312) must be located on the far left hand side and the launch amplifier (PA-720) must be the next module in the chain. Please look at the above picture.

AIM PROGRAMMER TO IR SENSOR LOCATED ON EACH PROCESSOR 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-003 with *firmware version 4.7* 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.

Programming of the Processor

To program the channel processor, 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 channel processor is ready to receive data from the PS programmer. When the channel processor has been programmed, programming mode should be deactivated by placing the switch in the OFF position. The programming indicator light will go out.
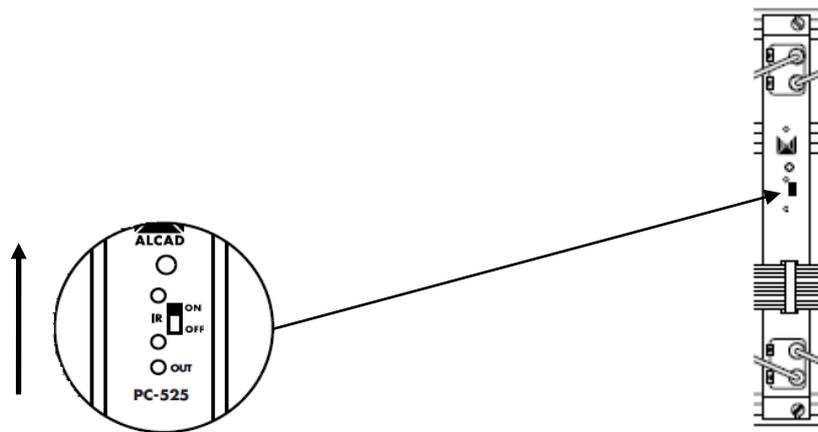
To start programming the equipment, Press any button on the PS-003 programmer to turn on the programmer. The following screenshot below will appear.
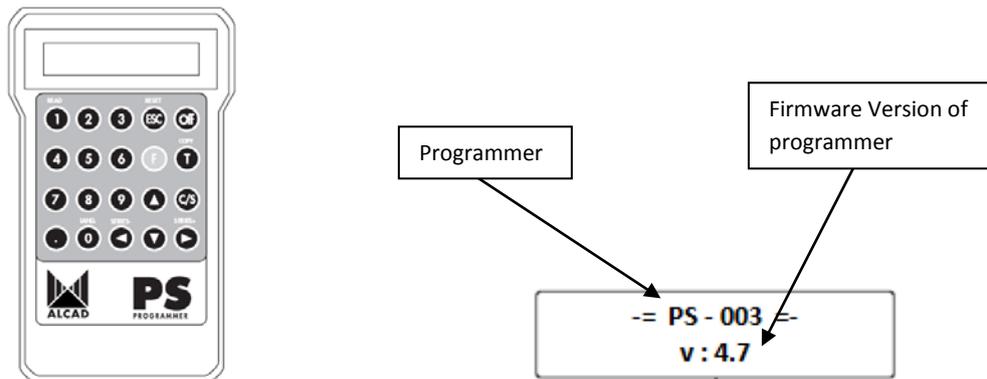
You must then select the model you are trying to program. Scroll left or right using the arrows until you get screenshot below

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SERIE 905
PC
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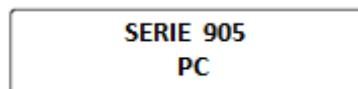
You will then need to press arrow down and you will then see the screen *"Mode"*. This enables you to set the processor for analogue or digital which can be seen below

Mode :
      Digital

Press the arrow up once and you will then see the screenshot that enables you to select the "Table Channel frequency" for the ***input/output*** frequency.

Table channels
Frequency
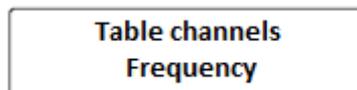
Then press the down arrow twice that will take you to screen you see the below which requires you to enter the output frequency of the carrier you are processing without the offset.

Output frequency
177.50 MHz
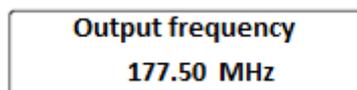
You increase/decrease the values using the arrows   or use the numeric keypad to enter the frequency. Ensure if you enter the value using the numeric keypad you use the decimal point. The Australian Analogue/Digital frequency table can be seen on the next page .

NB. The PC-series allows you to set the output frequency as processor (e.g. If Input Frequency is 177.500 MHz then Output frequency 177.500MHz) or converter (e.g. If Input Frequency is 177.500 MHz then output frequency is 620.500MHz) as they are fully agile.

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

Once you have entered the Output frequency press the down

arrow [T] to take you to screenshot below which requires you
to enter the input frequency of the carrier you are processing or
converting without the offset.

Input Frequency
177.50 MHz

Once you have the entered the desired input centre frequency press transmit [T]
and you will see the LED on the processor you are programming flash twice.
This indicates it is receiving the settings from the programmer.

Now press down arrow [T] to get to the next screen below.

Input Offset
0 MHz

Please note offsets are required on some channels. e.g. Broadcaster Nine Metro
requires 191.625 MHz so would set offset to + 1/6. For offset values look at table
below to give you the decimal Australian offsets.

Fraction Offset	Decimal Offsets
+ 1 / 6	+0.125
+ 2 / 6	+0.250
+ 3 / 6	+0.375
- 1 / 6	- 0.125
- 2 / 6	- 0.250
- 3 / 6	- 0.375

Press transmit [T] to send the information then press down arrow [T] to get to
the next screen below

Output offset
0 MHz

Press transmit [T] to send the information after you have set offset if required then

press down arrow [T] to get to the next screen below

Bandwidth
7 MHz

Change to 7MHz and then press transmit [T]. Then press down arrow [T] to get
to the next screen.
     Bandwidth setting for Australia MUST ALWAYS be set to 7MHz.

You will be taken to the *"Adjust Levels "*screen which enables you to alter the output power level.

Adjust Levels
0 dB

The manual adjustment of the power output can be changed

by pressing ◀ arrow ▶ buttons to select desired output level.

The range of the level is +25 to -25. Press transmit **T** to send the information.

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

ALCAD

IR ON
OFF

OUT

PC-525