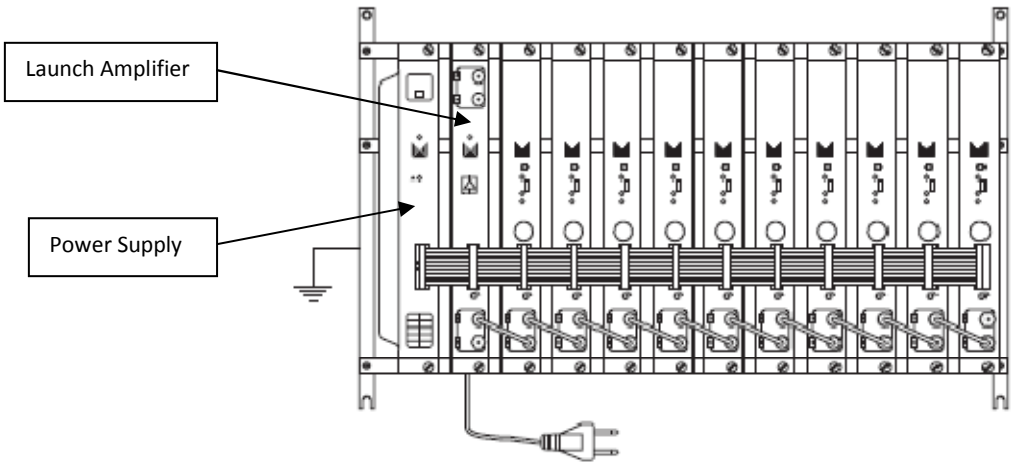
Technote 2: Setting up MS-551 Stereo Modulators

Vestigial Side Band TV Stereo Modulators generate an analogue TV channel from the audio and video signals .MS-551 Stereo modulators comprise SAW filtering for maximum harmonic reduction and true VSB response for adjacent channel operation.



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 MODULATOR WHEN PROGRAMMING

Programming of Modules

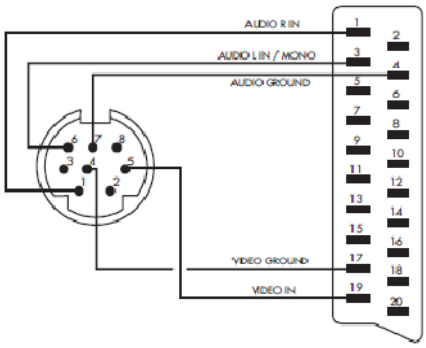
Ensure the following prior to programming:

- 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.

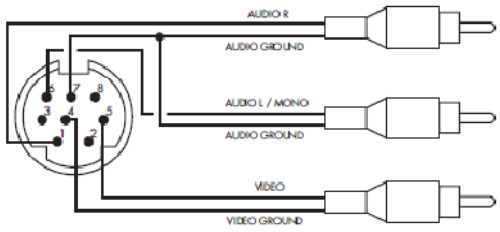
The MS-551 modulators use an 8 pin Mini-Din cable that is available from your local ALCAD dealer. The mini DIN connection is located on the front of the modulator. Please look at picture below for example.

In connecting the audio and video sources, two types of cables are available:

- **CD-003 (cod. 9120098)** Stereo, with a miniDIN to SCART (EuroConnector) connection.

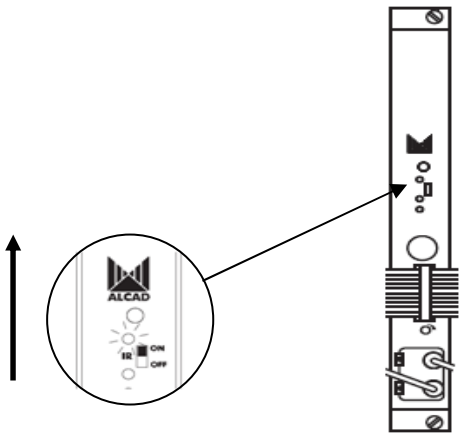


- **CD-113 (cod. 9120094)** Stereo, with a miniDIN to RCA connection.

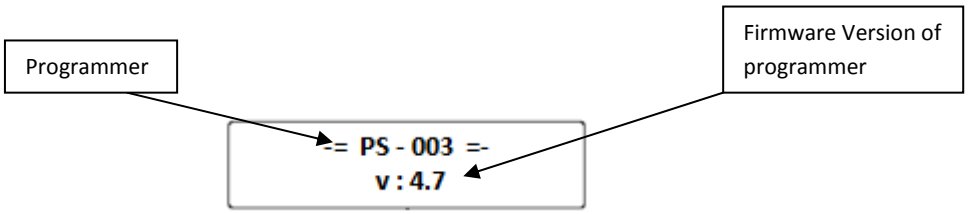


1.0 Programming of the Modulator

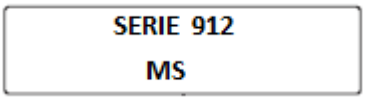
To program the modulator, place the programming switch in the ON (upward) position which can be seen from picture below. When you turn the switch in the “ON” position the programming indicator will light up. While the programming indicator remains lit, the channel processor is ready to receive data from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



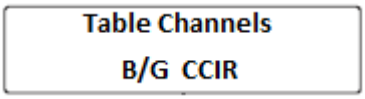
To start programming the equipment, Press any button on the PS-003 programmer to turn on the programmer. The following screenshot below will appear.



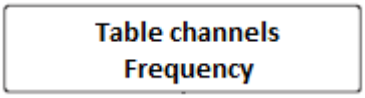
You must then select the model you are trying to program. Scroll left or right using the arrows until you get screenshot below



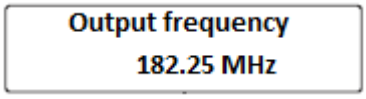
You will then need to press arrow down and you will then see the screen ***"Table channels B/G CCIR"***on the programmer screen. This can be seen below



Press the left arrow once so that you can see the screen shot as below ***"Table channels frequency".***



Press the arrow down once which will take you to ***"Output Frequency"*** screen.



Increase/decrease the values using the arrows or use the numeric keypad to enter the frequency output that is desired. 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

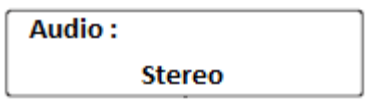
Once you have the desired output frequency press transmit and you will see the PRG LED on the processor you are programming flash twice. This indicates it is receiving the settings from the programmer. Now press down arrow to get to the next screen below.

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

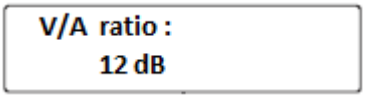
The next screen enables the type of Audio output that is to be selected stereo or mono



Once you have the desired audio output press transmit  to ensure setting is sent to module, then press the down arrow  to go to the next screen below.

The ***"Audio level"*** screen enables manipulation of the Audio Sub-carrier from the modulator. Once you have the desired audio level set press transmit  to ensure setting is sent to module, then press the down arrow  to go to the next screen below.

The ***"Video level"*** screen enables manipulation of the Video-carrier from the modulator. Once you have the desired video level set press transmit  to ensure setting is sent to module, then press the down arrow  to go to the next screen below.



The ***"V/A ratio"*** enables 12dB or 16dB ratio settings, which is the difference between the Video to Audio carriers. Once you have the desired V/A ratio set press transmit  to ensure setting is sent to module.

The modulator has now been programmed; programming mode should be deactivated by placing the switch in the OFF position. The programming indicator light will go out.

Ensure to set power level of each module using the Phillips head variable gain controller.