

## PROGRAMMING MANUAL

### KLA-110 Launch Amplifier/Power Supply



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## I.O PREFACE

Thank you for purchasing the Kingray Professional Series Headend. This programming manual contains information on programming the system either by Ethernet or USB including detailed information on the functions of the firmware. For the latest version of software, please check out our website [www.kingray.net.au](http://www.kingray.net.au) for download.

### I.1 GETTING STARTED

Now that you have installed the rack, launch amplifier and modules, it is now time to program the system via the KLA-110 Launch Amplifier, following these steps;

- Connect a straight thru Ethernet lead from a PC/laptop to the KLA-110 Ethernet socket.
- Open your web browser software such as Internet Explorer, Google Chrome or Firefox etc.
- Then type the following default IP address 192.168.1.1 in the address field and press enter.

**NOTE:** When connecting a computer directly to the KLA-110, it may be necessary to change your own IP settings. Make sure you write down the settings so you can reconnect to your own network at a later stage.



- The window will now look like this, click on 'HERE' to log in.



- A window will appear for you to enter the User name and Password. Enter the default user name 'admin' and default password 'admin', then press OK.



**NOTE:** If the headend has already been installed and the username and password is not known, use a thin blunt object (such as a paper clip) to push in the small hole (for 3 seconds) on the front of the KLA-110. This will reset the username and password back to default. This will only affect the settings for username and password.



- Once the correct username and password has been used, the window should look something like this depending on how many modules have been installed.

**Kingray PROFESSIONAL**

System Configuration    Module Monitor

**HEADEND STATUS**

CH 6D	8D	11D	12D	34D	AMP	MOD NAME	MOD NAME	MOD NAME	DVD 2	DVD 1
<b>Output:</b> ON	<b>Output:</b> ON	<b>Output:</b> ON	<b>Output:</b> ON	<b>Output:</b> ON	<b>Gain:</b> 30 dB	<b>Input Freq:</b> 200 MHz	<b>Input Freq:</b> 200 MHz	<b>Input Freq:</b> 200 MHz	<b>Output:</b> ON	<b>Output:</b> ON
<b>Input Freq:</b> 177.5 MHz	<b>Input Freq:</b> 191.5 MHz	<b>Input Freq:</b> 219.5 MHz	<b>Input Freq:</b> 226.5 MHz	<b>Input Freq:</b> 271.3 MHz	<b>Total O/P Lvl:</b> 60 dBuV	<b>Output Freq:</b> 250 MHz	<b>Output Freq:</b> 250 MHz	<b>Output Freq:</b> 250 MHz	<b>Output Freq:</b> 660.25 MHz	<b>Output Freq:</b> 583.25 MHz
<b>Output Freq:</b> 177.5 MHz	<b>Output Freq:</b> 191.5 MHz	<b>Output Freq:</b> 219.5 MHz	<b>Output Freq:</b> 226.5 MHz	<b>Output Freq:</b> 271.3 MHz	<b>Temperature:</b> 58 °C	<b>RF Signal:</b> 80 dBuV	<b>RF Signal:</b> 80 dBuV	<b>RF Signal:</b> 80 dBuV	<b>RF Signal:</b> 76 dBuV	<b>RF Signal:</b> 76 dBuV
<b>RF Signal:</b> 72 dBuV	<b>RF Signal:</b> 70 dBuV	<b>RF Signal:</b> 70 dBuV	<b>RF Signal:</b> 70 dBuV	<b>RF Signal:</b> 70 dBuV	<b>External Power:</b> OFF	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Audio Level:</b> -5 dBu	<b>Audio Level:</b> -5 dBu
<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz		<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital		
<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital		<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal		
<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Serial #:</b> 110520011	<b>Serial #:</b> 110400196	<b>Serial #:</b> 110400194	<b>Serial #:</b> 110400195	<b>Serial #:</b> 110210018	<b>Serial #:</b> 110210016
<b>Serial #:</b> 110400092	<b>Serial #:</b> 110400134	<b>Serial #:</b> 110400135	<b>Serial #:</b> 110400127	<b>Serial #:</b> 110400153						
<b>On/Off</b>	<b>On/Off</b>	<b>On/Off</b>	<b>On/Off</b>	<b>On/Off</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>On/Off</b>	<b>On/Off</b>
<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Settings</b>	<b>Settings</b>
<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>					<b>Locate</b>	<b>Locate</b>

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## 2.0 SYSTEM CONFIGURATION

- To check or change any parameters in the system configuration, hover the mouse over 'system configuration' and a drop down menu will appear. Click on the desired setting that you wish to check or change.

**Kingray PROFESSIONAL**

System Configuration    Module Monitor

**HEADEND STATUS**

CH 6D	8D	11D	12D	34D	AMP	MOD NAME	MOD NAME	MOD NAME	DVD 2	DVD 1
<b>Output:</b> ON	<b>Output:</b> ON	<b>Output:</b> ON	<b>Output:</b> ON	<b>Output:</b> ON	<b>Gain:</b> 30 dB	<b>Input Freq:</b> 200 MHz	<b>Input Freq:</b> 200 MHz	<b>Input Freq:</b> 200 MHz	<b>Output:</b> ON	<b>Output:</b> ON
<b>Input Freq:</b> 177.5 MHz	<b>Input Freq:</b> 191.5 MHz	<b>Input Freq:</b> 219.5 MHz	<b>Input Freq:</b> 226.5 MHz	<b>Input Freq:</b> 271.3 MHz	<b>Total O/P Lvl:</b> 60 dBuV	<b>Output Freq:</b> 250 MHz	<b>Output Freq:</b> 250 MHz	<b>Output Freq:</b> 250 MHz	<b>Output Freq:</b> 660.25 MHz	<b>Output Freq:</b> 583.25 MHz
<b>Output Freq:</b> 177.5 MHz	<b>Output Freq:</b> 191.5 MHz	<b>Output Freq:</b> 219.5 MHz	<b>Output Freq:</b> 226.5 MHz	<b>Output Freq:</b> 271.3 MHz	<b>Temperature:</b> 58 °C	<b>RF Signal:</b> 80 dBuV	<b>RF Signal:</b> 80 dBuV	<b>RF Signal:</b> 80 dBuV	<b>RF Signal:</b> 76 dBuV	<b>RF Signal:</b> 76 dBuV
<b>RF Signal:</b> 72 dBuV	<b>RF Signal:</b> 70 dBuV	<b>RF Signal:</b> 70 dBuV	<b>RF Signal:</b> 70 dBuV	<b>RF Signal:</b> 70 dBuV	<b>External Power:</b> OFF	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Audio Level:</b> -5 dBu	<b>Audio Level:</b> -5 dBu
<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz	<b>Bandwidth:</b> 7 MHz		<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital		
<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital	<b>Mode:</b> Digital		<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal		
<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Signal Strength:</b> No signal	<b>Serial #:</b> 110520011	<b>Serial #:</b> 110400196	<b>Serial #:</b> 110400194	<b>Serial #:</b> 110400195	<b>Serial #:</b> 110210018	<b>Serial #:</b> 110210016
<b>Serial #:</b> 110400092	<b>Serial #:</b> 110400134	<b>Serial #:</b> 110400135	<b>Serial #:</b> 110400127	<b>Serial #:</b> 110400153						
<b>On/Off</b>	<b>On/Off</b>	<b>On/Off</b>	<b>On/Off</b>	<b>On/Off</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>On/Off</b>	<b>On/Off</b>
<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Settings</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Settings</b>	<b>Settings</b>
<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>	<b>Locate</b>					<b>Locate</b>	<b>Locate</b>

Save Settings  
Restore Settings  
Identification  
Network  
Password

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## 2.1 SAVE SETTINGS

The system will allow you to save the parameters of the system. This is particularly useful to clone a system when installing several headsets that are the same or just for record keeping.

To save the settings, in system configuration menu, click on 'save settings' and the following window will appear. Click on 'Save'.



The following window will now appear. Find a Directory you wish to save the file to and type in the name you wish to call the file. Then click 'save'. The parameters will now be saved.



## 2.2 RESTORE SETTINGS

When cloning or uploading previously saved settings, in 'system configuration' menu, click on 'Restore settings' and the following window will appear. Click on 'Browse' to locate the saved file. Click 'Upload'. This will now upload the saved settings.

**NOTE:** When cloning a system, make sure the modules installed are exactly the same setup of the previous saved otherwise a successful restore will not occur.



## 2.3 IDENTIFICATION

Identification allows the installer to put his or her details in the system. This is ideal for information on who installed the system or worked on the system last. This may also be useful for error reporting.

To check or edit the identification settings, in system configuration menu, click on 'Identification' and the following window will appear.



To add or edit the text, click on 'Edit'. A new window will appear.



Information can now be entered. Once complete, click 'Write'. This will save your information to memory.



## 2.4 NETWORK

This is important if any remote monitoring or controlling is required when connecting to a network. You may find that the default IP address (192.168.1.1) may conflict with another device, such as a printer. To change the network settings, in system configuration menu, click on 'network', then type in the new IP Address, Network Mask, and Default Gateway and then click 'Write'. This will now save the information in memory.

To make this a Dynamic IP address, click the box after 'Use DHCP to get IP Address'.

Remote monitoring/controlling can be done through a VPN setup. For more information on setting up the system in an IT network, contact the IT administrator who manages the customers network.

**NOTE:** Please make sure you write down any new IP address settings so you are able to access the system again at a later stage.



## 2.5 PASSWORD

For increased security protection, the password can be changed rather than using the default password 'admin'. To change the password, in system configuration menu, click on 'Password', type in the NEW password and then retype the NEW password to confirm. Click on 'Update'. This will now save the new password to memory.



## 2.6 RESETTING THE SYSTEM

The Kingray Professional series has built-in security features to stop unauthorised people from accessing the system. To reset the IP address, password and module settings back to default, use a blunt object (such as a paperclip), to push into the small hole on the front of the KLA-110. Hold this in whilst switching the system off, then on again. You can now gain access to the system using the default IP address and password.

## 3.0 MODULE MONITOR

To refresh and update any information on the screen, click on 'Module monitor'



## 4.0 PROGRAMMING THE SYSTEM VIA ETHERNET CONNECTION

Once the rack has been mounted and all the modules installed and connected, its now time to locate each module so that the software image mimicks the physical layout. Each module (KCC110/KVM110) comes out of the factory set to location -1, you will find all the modules in the software will be on the left hand side of the KLA-110 (The KLA-110 will be on the far right hand side). After you have gained access to the system by using the password, you will see all modules installed in front of you.

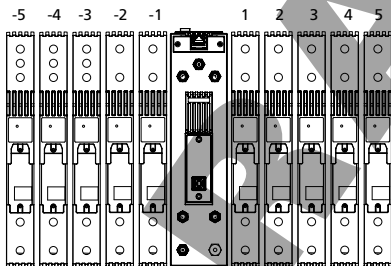
On/Off  
Settings  
Locate

Click on 'Locate' at the bottom of a module. The green bar will flash on that module. Now physically look at the modules when clicking 'Locate'.

A Green LED on front of one of the modules will flash. Count the module position as it is depicted in the drawing (Fig.1). Now click on 'Settings' at the bottom of that module. This will open a window where the settings can be changed. At this stage, change the field that says 'Module Position' to the position it is physically.

**NOTE:** module positions allowed are -5, -4, -3, -2, -1, or 1, 2, 3, 4, 5 depending on what side they sit on the KLA-110 launch amplifier.

FIG. 1 Module Positions



When you have finished making the changes, click on 'write' to save the information. Once this has been set, repeat steps until all modules have been setup.

Once all of the module positions have been set correctly, you should see the layout of the system like FIG.1 above (or replicating the amount of modules you have installed in the system).

To change other settings such as channel name, input frequency, output frequency, RF output level, bandwidth and mode, see KCC110, or KVM110, and KLA110 Parameters.

## 4.1 KCC-I IO PARAMETERS

In the KCC110 settings, you can change the Module Name, Module Position, Channel Name, Input frequency, Output Frequency, RF Output Level, RF Output and Mode. In addition you can monitor signal strength.

To change these settings, click on 'settings' at the bottom of the module. The following window will appear.

On/Off  
Settings  
Locate

CH 6D
<b>CH 6D</b>
Output: ON
Input Freq: 177.5 MHz
Output Freq: 177.5 MHz
RF Signal: 72 dBuV
Bandwidth: 7 MHz
Mode: Digital
Signal Strength: No signal
Serial #: 11040092



- Module Name:** Text can be added to call this module a name
- Module Position:** This is the actual module position in the rack - position numbers that can be used are -5, -4, -3, -2, -1, 1, 2, 3, 4, 5.
- Channel Name:** Text can be added to call this module a name
- RF Output:** You can switch the RF output ON or OFF
- Input Frequency:** Enter the frequency of the channel being received - adjustable in 125 KHz steps
- Output Frequency:** Enter the frequency of the channel being transmitted - adjustable in 125 KHz steps
- RF Level:** You can adjust the output level from 60 - 80dBuV
- System Bandwidth:** This is the bandwidth of the channel being received - 7 or 8 MHz
- Mode:** This is used for the type of transmission that is being processed or converted - analogue or digital.

## 4.2 KVM-110 PARAMETERS

In the KVM110 settings, you can change the Module Name, Module Position, Channel Name, Output Frequency, RF Level, RF Output, Left volume, and Right Volume.

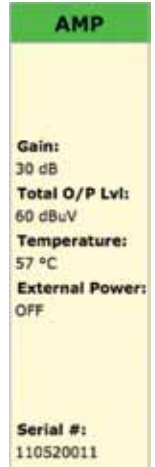
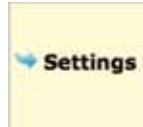
To change these settings, click on 'settings' at the bottom of the module.



## 4.3 KLA-110 PARAMETERS

In the KLA110 settings, you can change the Module Name, the Output Level via the gain, and switch the external power supply on or off. Output Level and Temperature can also be monitored from this page.

To change these settings, click on 'settings' at the bottom of the module.



**Module Name:** Text can be added to call this module a name

**Module Position:** This is the actual module position in the rack - position numbers that can be used are -5, -4, -3, -2, -1, 1, 2, 3, 4, 5.

**Channel Name:** Text can be added to call this module a name

**Output Frequency:** Enter the frequency of the channel being transmitted - adjustable in 125 KHz steps.

**RF Level:** You can adjust the output level from 60 - 80dBuV.

**RF Output:** You can switch the RF output ON or OFF

**Left Volume:** Allows the user to adjust the left side volume independently to the right side volume

**Right Volume:** Allows the user to adjust the right side volume independently to the left side volume

Once changes have been made, click 'Write' and the new settings will be saved in memory.

**Module Name:** Text can be changed to call this module a name

**Gain:** Adjustable between 14 to 45 dB, changing this figure will change the output level. 45 dB gain will give a maximum output level.

**Output Level:** True Broadband RF output level from the output socket

**Temperature:** Current temperature of power supply

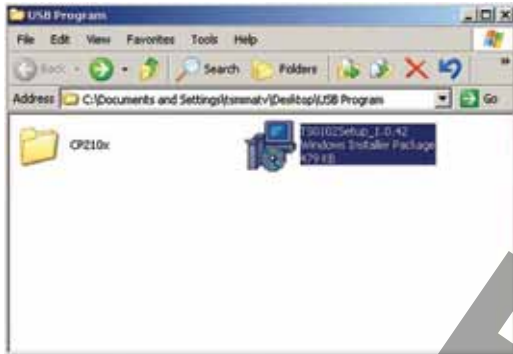
**External Power:** ON/OFF Allows 18 volts @ 100mA to be feed out of the antenna input connection. This allows for a masthead or preamp to be used without using an additional power supply.

## 5.0 PROGRAMMING THE SYSTEM VIA USB CONNECTION

When programming one module via USB, use our free software available from enquires@gme.net.au.

- 1) Download or copy the software across to C drive on the computer being used to program the module.
- 2) Double click on the file TS0102.msi

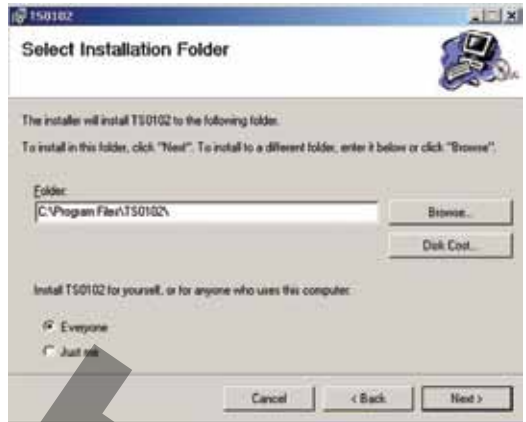
You will see the following window/s appear. Follow the steps through the installation process until finished.



- 3) Click 'next' to confirm the installation



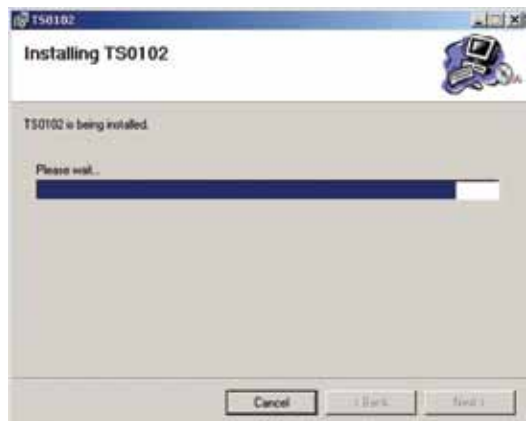
- 4) Select the folder you wish to save the programme in and if you want anybody else to have access to the software, then click 'next'.



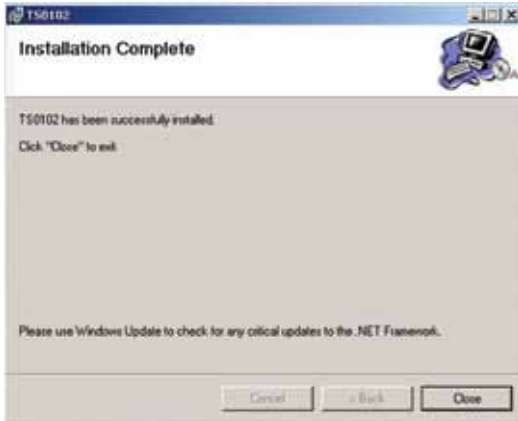
- 5) Confirm the installation by clicking 'next'.



- 6) A window will now appear indicating the installation process.



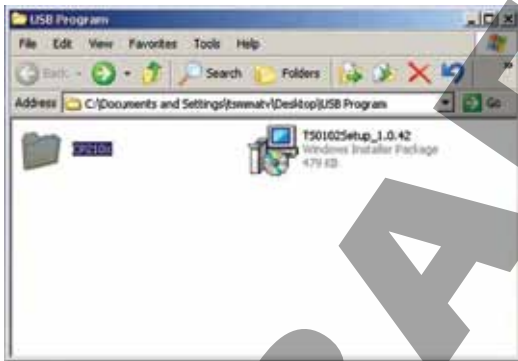
7) Once the installation programme is complete, click 'close'.



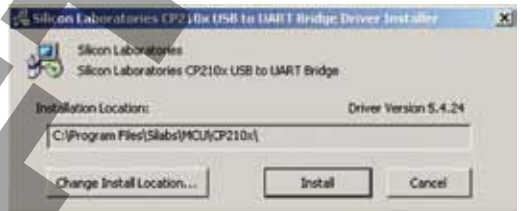
10) Now double click on the file 'CP210xVCPInstaller.exe' to install the software



8) Now you must install the device driver. Download or copy the software across to C drive on the computer being used to program the module. Double click on the directory CP210x.



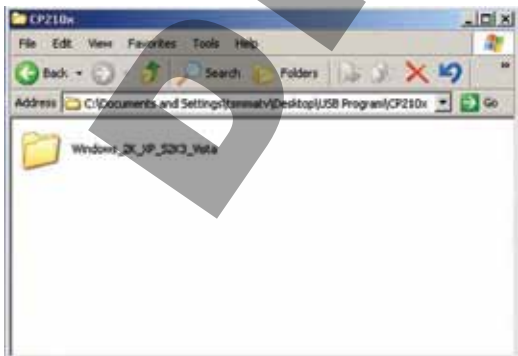
11) The following window will now appear. Choose your location and click 'Install'.



12) Once the installation is complete, the following window will appear.

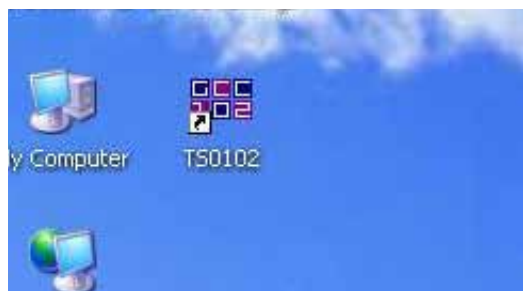


9) Now double click and open up the directory Windows\_2K\_XP\_S2K3\_Vista

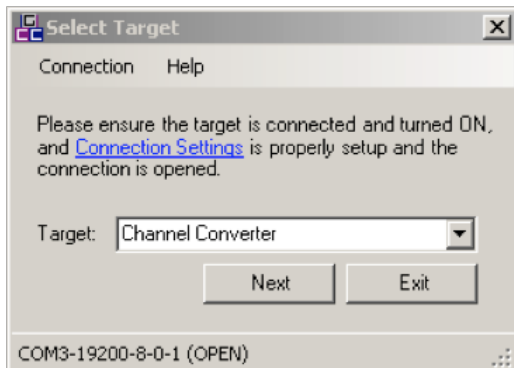


## 5.1 OPERATING THE SOFTWARE

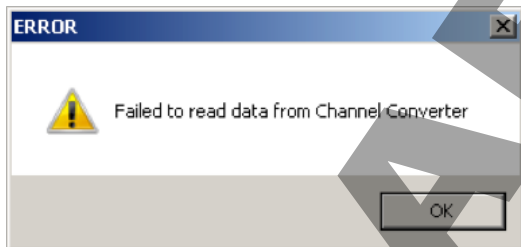
Now that the software has been installed, double click on the shortcut on your desktop named TS0102.



A new window will now appear asking you to select the product you wish to program. From the target dropdown menu, choose either KCC-110 Channel Converter, KVM-110 VSB Modulator, or KLA-110 Launch Amplifier.



Before clicking 'next', make sure the device is connected and the driver has been installed otherwise an error will occur



## 5.2 KCC-110 PARAMETERS

When choosing the Channel Converter, the following window will appear. Enter information in the required fields;



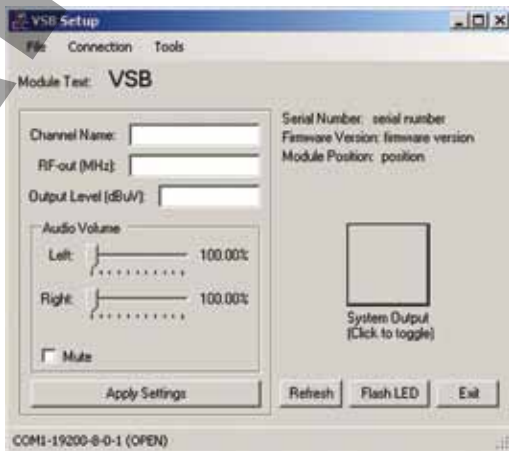
- Module Text** Enter text here
- Channel Name** Enter text here
- System Mode** Analogue or Digital signal to convert
- System Bandwidth** Choose the channel bandwidth applicable to your country e.g. 7 MHz for Australia, 8 MHz for other countries.
- RF-in (MHz)** Enter in the frequency of the incoming channel
- RF-out (MHz)** Enter in the frequency of the outgoing channel
- Output Level (dBuV)** Enter the output level that you require (between 60 - 80 dBuV)

Now click on 'Apply changes'

**NOTE:** Make sure that when making any changes, you 'Apply changes' to save the new information

## 5.3 KVM-110 PARAMETERS

When choosing the VSB Modulator, the following window will appear. Enter information in the required fields;



- Module Text** Enter text here
- Channel Name** Enter text here
- RF-out (MHz)** Enter in the frequency of the outgoing channel
- Output Level (dBuV)** Enter the output level that you require (between 60 - 80 dBuV)
- Audio Volume** Adjust audio level to increase or decrease the volume.

Now click on 'Apply changes'

.....  
**NOTE:** Make sure that when making any changes, you 'Apply changes' to save the new information.  
.....

## 5.4 KLA-I I O PARAMETERS

When choosing the Launch Amplifier, the following window will appear. Enter information in the required fields;



- Module Text**            Enter text here
- Gain**                    Adjust gain of amplifier for desired output level.
- Temperature Sensor**    Temperature of power supply.
- Output Level**            Output level set by Gain  
(max 10 channels at 110 dBuV -60 dB IMR)

Now click on 'Apply changes'.

## 6.0 TROUBLE SHOOTING

**DRAFT**