

The most important thing we build is trust.

VETA Receiver Series



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Revision History

Version	Date	Main Changes from Previous version	Edited by
X1	9-17-2009	Initial Release	RM
X1A	1-12-2010	Cobham branding	DRF
X2	04-05-2010	<ul style="list-style-type: none"> • Some items previously in other screens have been combined into the main screen using tabs. • Attached VETA receivers are auto detected and initially connected without user intervention. • Communications to the device has been improved to reduce errors. • Controls presentation and functionality has been standardized across the application. • Software documentation is now available from the help menu. 	RM/DRF
X2A	06-16-2010	<ul style="list-style-type: none"> • Added USB driver installation for MVRD 	DRF

1. Acronyms

This section lists and describes the various acronyms used in this document.

Name	Meaning
16QAM	16-state Quadrature Amplitude Modulation
AES	Advanced Encryption System
ABS	Basic Encryption System (8 bit)
BDC	Block Down Converter
BER	Bit Error Rate
COFDM	Coded Orthogonal Frequency Division Multiplexing
BDC	Block-Down Converter
FEC	Forward Error Correction
GUI	Graphical User Interface
I/O	Input/ Output
KBaud	Kilobaud per second
Kbps	Kilobits per second
Mbps	Megabits per second
MER	Modulation Error Rate
MPEG	Moving Picture Experts Group
MVMR	Monitor VETA Messenger Receiver
MVRD	Messenger VETA Receiver Decoder
NTSC	National Television System Committee
PAL	Phase Alternation Line
QPSK	Quadrature Phase Shift Keying
QAM	Quadrature Amplitude Modulation
RF	Radio Frequency
RX	Receiver
SNR	Signal-to-Noise Ratio
TS	Transmit Stream
TX	Transmitter
VDC	Volts (Direct Current)

Name	Meaning
VDL	VETA Digital Link
VDR	VETA Digital Repeater
VETA	Very Efficient Transmission Apparatus
VMR	VETA Monitor Receiver
VMT	VETA Miniature Transmitter
VR	VETA Receiver
VT	VETA Transmitter

2. About this Manual

This manual describes how to use the software application to interact with VETA family receivers. All the receivers in the family have the same functions. The manual is divided into the following main sections:

- Software Control Overview
- Status Elements Details
- Tab Definitions
- Drop-Down Menu Definitions

3. Software Control Overview

This software is used for all GMS products based on Very Efficient Transmission Apparatus (VETA) receivers, including the VETA Receiver (VR), the VETA Monitor Receiver (VMR), the Messenger VETA Receiver Decoder (MVRD) and the Monitor VETA Messenger Receiver (MVMR). However, each product uses a unique control cable. Control cables, as well as connector pin outs, are described in detail in corresponding product manual.

Configuration, control and monitoring of the VETA Series Receivers are accomplished using GMS' optional (sold separately) MS Windows-based VETA RX configurator software program (GMS Part Number 630-SW0093*). This Graphical User Interface (GUI) style program provides the end user with an easy way to interface with the VETA Receiver units (including VR, VMR, VDR RX, etc). During normal operation, once a VETA Digital Link (VDL) is established, the VETA RX Configurator GUI can be used to monitor the link statistics as well as to control the receiver. Monitoring the link statistics is an optional operation. Therefore, the GUI does not need to be active and can be disconnected from the VETA RX unit after the link is established.

3.1 System Requirements

The VETA RX Configurator program has been developed and tested on Windows XP (service pack 3), Vista (32-bit and 64-bit) (Service Pack 2) and Windows 7 (32-bit and 64-bit). Although the program may work properly on other operating systems, no GMS support or assistance can be provided concerning other operating systems.

3.2 USB Driver

The Messenger VETA Receiver Decoder (MVRD) communicates through a USB port. All other members of the VETA family receivers use a RS-232 port. A USB virtual port driver is required for the MVRD and control application to communicate. Instructions for installing the driver are included in Appendix B

 **Warning: The control GUI will not communicate with a MVRD unless the correct USB driver is installed.**

3.3 Software Installation

3.3.1 Download Method – Setup Utility

Cobham - GMS Products customer service will provide a link to the folder containing the VR Setup package.

When you click the link, your default browser will start the file download. Depending on your computer's security settings, you may see a security-warning screen shown in Figure 1

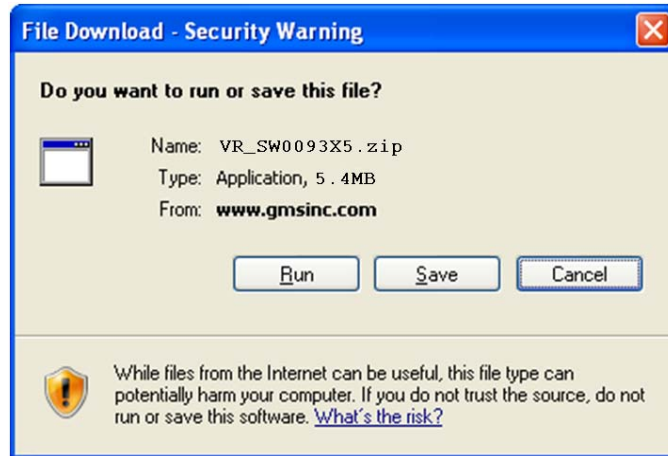


Figure 1 - File Download Security Screen

If so, click on the Save button to proceed. The Save As screen should appear (Figure 2). The file can be saved at any convenient location. Accept the default file name. Remember the location where the file is stored.

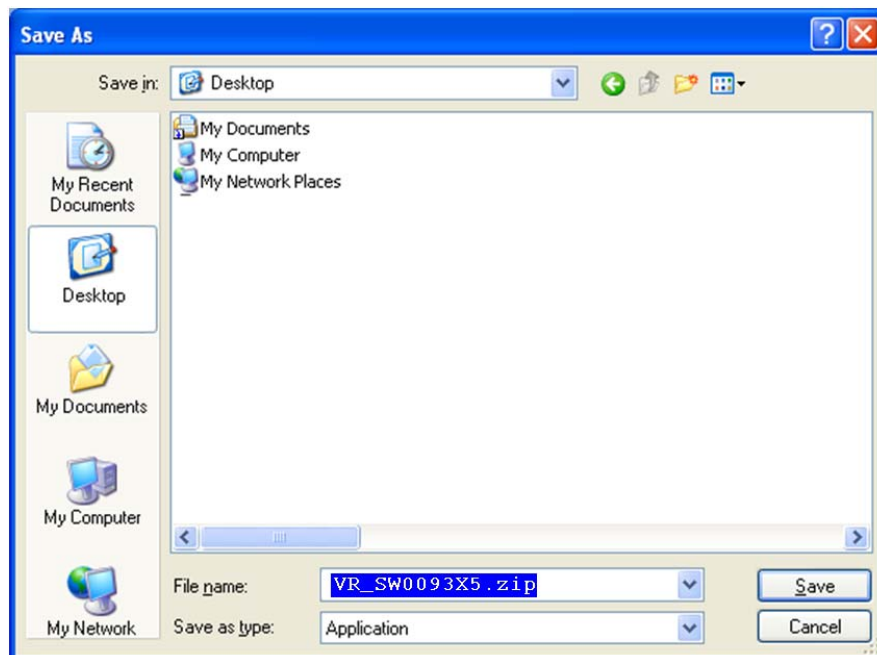


Figure 2 - Save As Screen

The file should complete downloading (Figure 3).

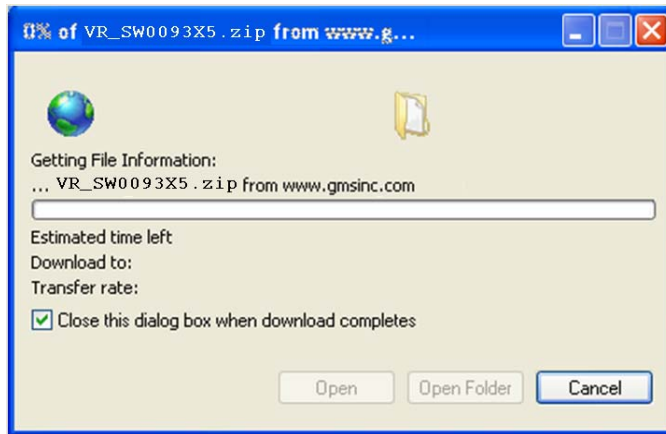


Figure 3 - Download Progress Screen

The file must be 'unzipped' (decompressed) to be used.

Windows XP has numerous options to extract zip files. One option is to use Windows Explorer. Locate the file in Windows Explorer and right mouse click on the file name. An option menu for the file, similar to Figure 4, will appear. Any of the 'Extract' options will uncompress the file(s).

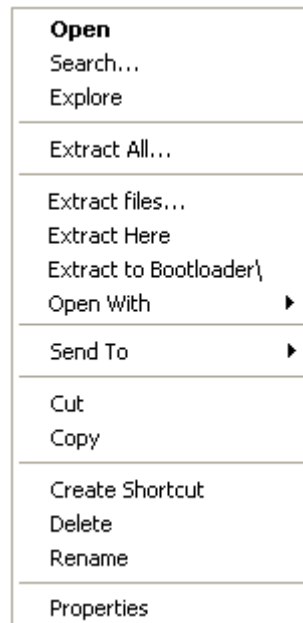


Figure 4 - Option Menu

The setup package will contain the files listed in Figure 5.

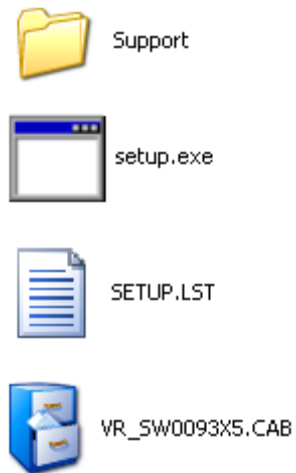


Figure 5 – Files in Setup Package

Run the setup.exe program. The program will initially copy files and display the screen shown in Figure 6.



Figure 6 - Setup Copying Files

The introduction screen shown in Figure 7 will be displayed when the setup application is ready to start.

Cobham - VR X5 Setup

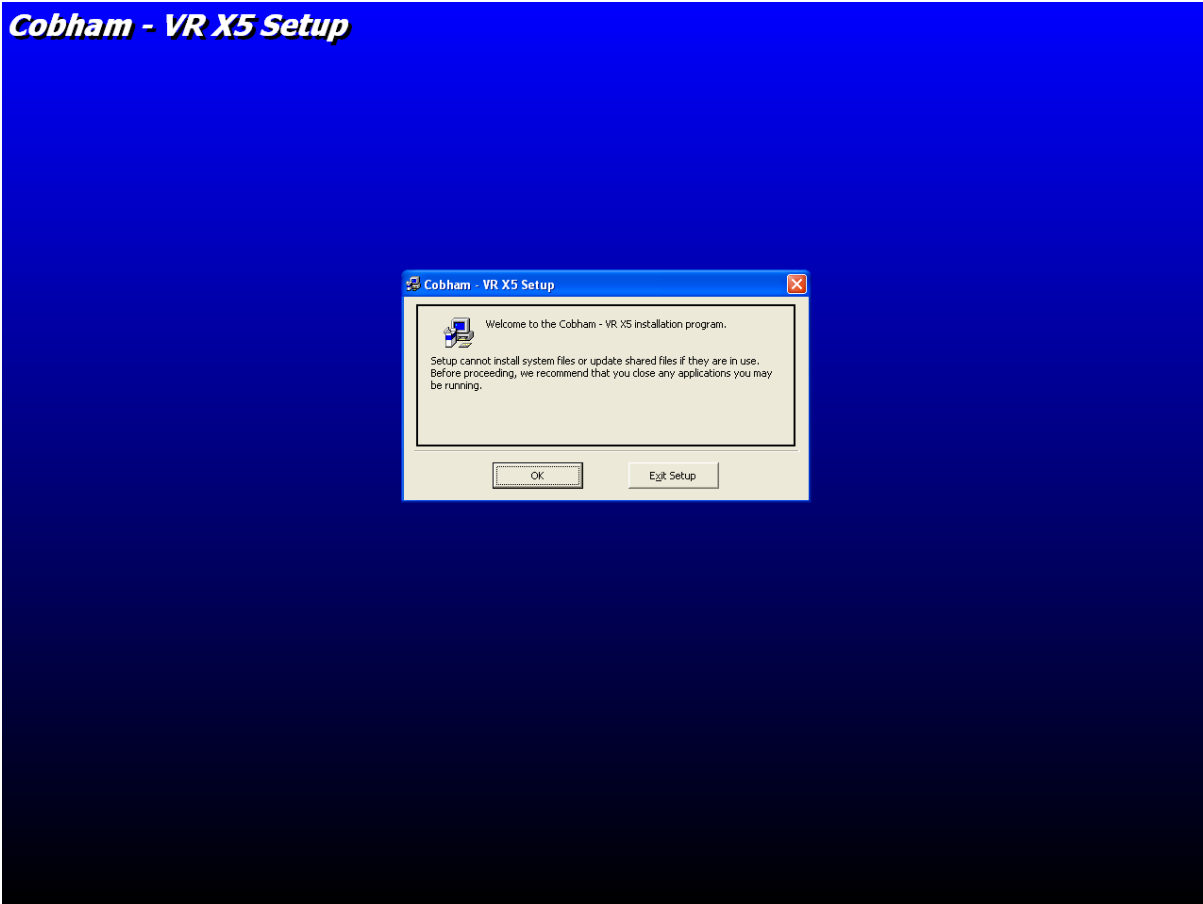


Figure 7 – VR Setup Introduction Screen

Continue with the installation by clicking the OK button. The next screen, Figure 8, allows you to change the installation directory. A new location can be selected by clicking the Change Directory button. It is recommended that the default directory be used.

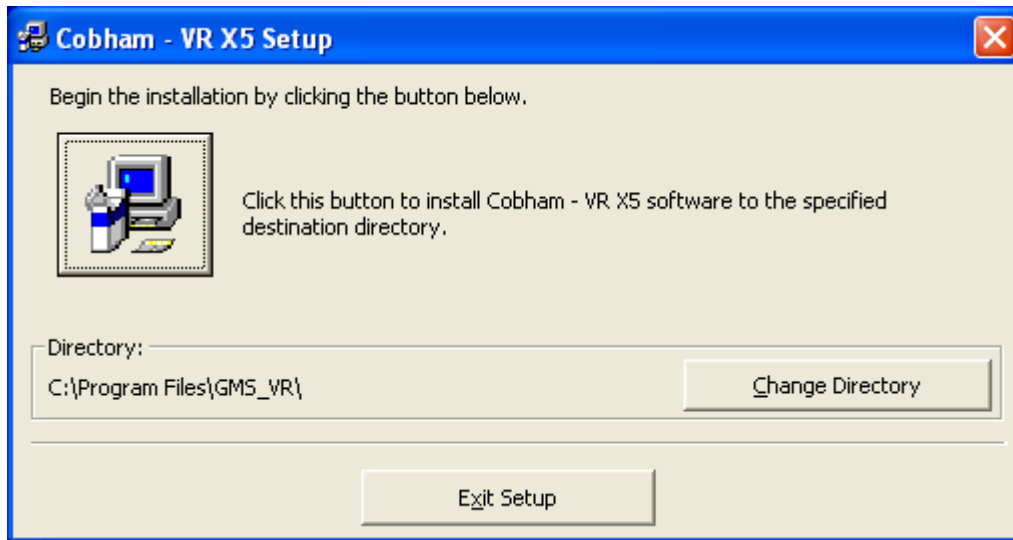


Figure 8 – Installation Directory Selection



Click the button to begin the installation.

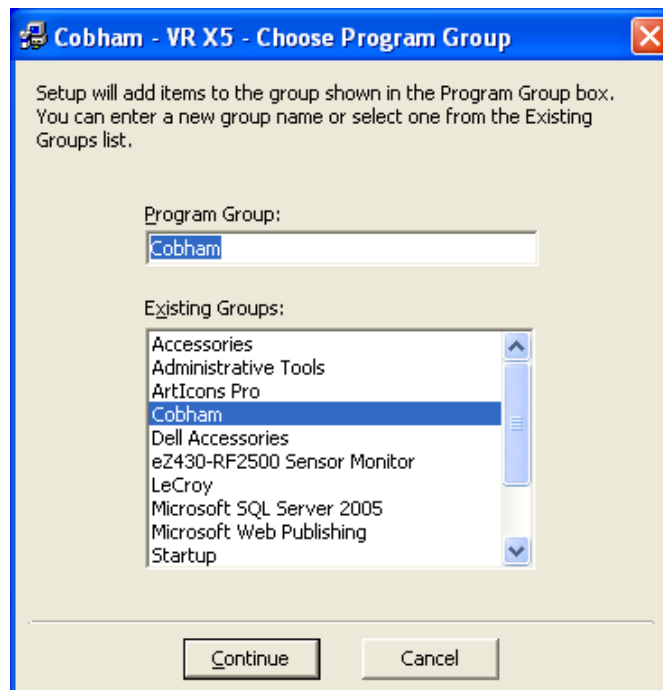


Figure 9 – Choose Program Group

Figure 9 shows the next screen. This allows you to modify the program group that windows creates to launch the program from the All Programs section of the windows Start menu. It is again recommended that the default be used.

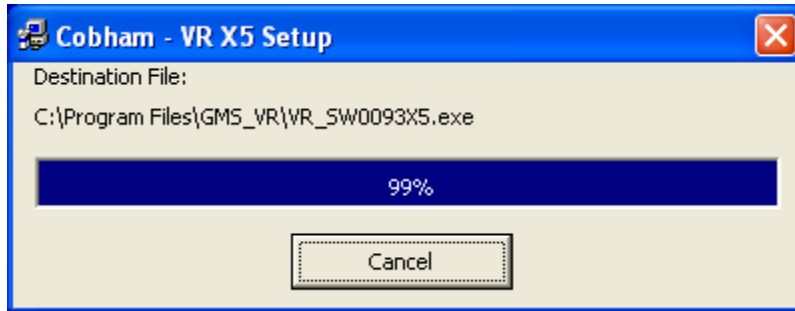


Figure 10 – File Installation

The application will load and register the application and support files (Figure 10).



Figure 11 – Setup Successfully Completed

The screen shown in Figure 11 displays when the installation has successfully completed.

3.3.1 CD Method – Setup Utility

The application is also available on the CD delivered with the product. The installation follows the same screens that were shown in 3.3.1. The following instructions outline the installation process for the VETA RX Configurator program:

- Insert provided CD-ROM into computer.
- Click on 'setup.exe' file. This will launch the VR Setup program. Several initial setup files will begin to be copied onto the computer.
- The VR Setup program will prompt the user to click on the 'computer icon' button to begin installation. If desired, the user can change the destination directory from the default. Click on the 'computer icon' button.
- The VR Setup program will then prompt the user to 'Choose Program Group'. If desired, the user can change the program group from the default. Click on the 'Continue' button.
- After installing the VETA RX Configurator program, the VR Setup program will put up a window indicating that setup was completed successfully. Click 'OK'.

3.4 Product Control & Status Monitoring Approach

Advanced control of VETA receivers is available by using the configurator program. Typically, users may want to customize the factory provided default configuration based control settings (such as frequency, modulation parameters or scrambling keys).

GMS transmitters and receivers provide programmable presets or configurations that can be set up through special programming software by Administrators. Configurations are selected by the user through an application program. The VETA products allow 16 configurations.

Administrators define the configurations for specific applications. Each configuration completely defines all of the unit parameters including center frequency, modulation parameters, video and audio parameters, user data and encryption. Field personnel will select specific configuration via pre-determined guidance from the Administrators. Matching the transmitter operation to the receiver operation is as simple as selecting the same configuration for both. For example: If the transmitter is set to configuration #3, then the receiver needs to be set to configuration #3 for them to operate together.

3.5 VETA RX Configurator Functions

The VETA RX Configurator program provides the user access to different configuration, control and monitoring options. Up to 32 VETA VR units can be connected to the GUI.

When the VETA RX Configurator program is launched, it will detect all the VETA RX units connected to the computer. However, it will not detect units connected to the computer after the program is launched. In this case, the user should close the program and open it again. If the program cannot find any valid devices connected, the screen shown in Figure will be displayed. The user can exit the program or check the connection and then try again.



Figure 12 – VETA RX Configurator

If the program finds valid devices on any com ports, it opens up the main control window. The program generates a message while collecting unit information. The main window is shown in Figure 13.

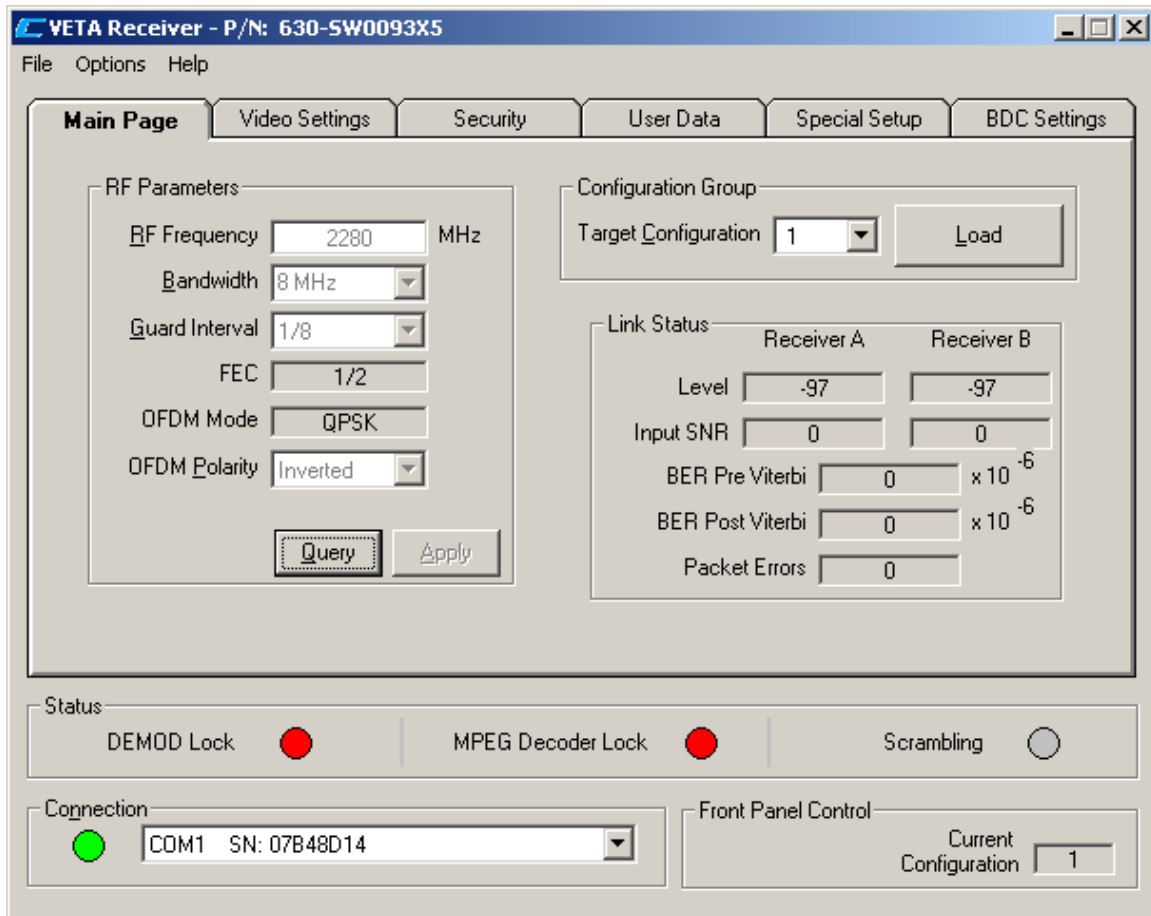


Figure 13 – VETA RX GUI Main Screen

As the figure shows, the application window consists of tab groups of associated functions and a status / connection area at the bottom of the window. The status / connection area remains visible apart from which tab is active.

3.6 Access levels

As was described previously, the VETA Control software has two levels of access – a User level and an Administrator level. To have full access to the controls, it is necessary to enter the password provided by GMS into the Administrator Login window. The Options pull-down menu provides access to this window. The password can only be changed by the factory.

User level access only allows changing the predefined configuration groups.

4. Status Elements Details

The Status area includes *Status*, *Connection* and *Front Panel Control* groups.

4.1 Status Group

Status group has three indicators.

The DEMOD Lock status, when green, indicates that the demodulators are successfully locked to the *RF signal*.

The MPEG Decoder Lock status is an indication that the *Video Decoder* is successfully locked to the incoming digital bit stream.

Both indicators must be locked to decode the transport stream to display video. These indicators can be very helpful in troubleshooting. For example, let us say the DEMOD Lock status is locked and the OSD (on screen display) is reporting good SNR readings; however the MPEG Decoder Lock status is not locked. This could be an indication that video at the transmitter end has problems (of course it could indicate other errors as well).

Scrambling Status indicates that incoming signal is scrambled (Yellow).

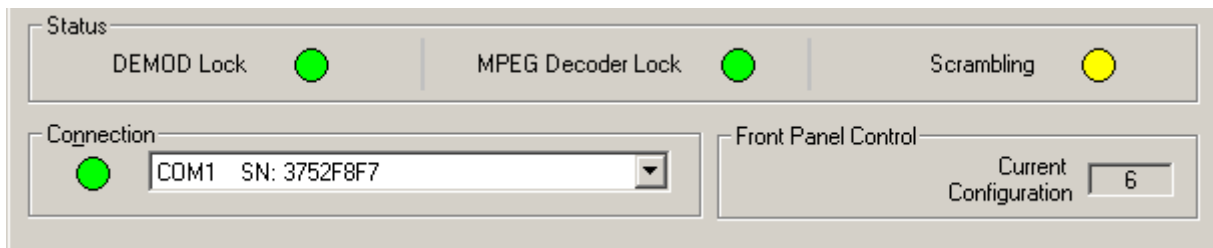


Figure 14 – Status

4.2 Connection Group

The left part of drop-down box shows communication ports that had VETA receiver units connected at the opening of the Control GUI. The serial number of the corresponding unit is displayed next to the communication port.

If more than one device is connected, the user can switch between devices by clicking on the desired com port in the drop-down list. The main window will be refreshed and the parameters of the corresponding device will be displayed.

The indicator on the left of the drop-down list indicates the connection status. When the indicator is green, the device is operating properly. When it is red, the connection has been lost.

4.3 Front Panel Control Group

This group consists of a *Current Configuration* box. This field reports the last loaded configuration number. Changes applied after configuration has been loaded are saved immediately into current configuration.

5. TAB Definitions

5.1 Main Page Tab

The VETA Receiver Control software contains six tabs: *Main Page*, *Video Settings*, *Security*, *User Data*, *Special Setup* and *BDC Settings* tabs (see Figure 15). It also has three pull-down menus consisting of the *File*, *Options* and *Help*. Under the menus are additional pull down submenus and selections that are explained in section 6 in this document.

The *Main Page* tab consists of the *RF Parameters* group, the *Configuration* Group and the *Link Status* group.

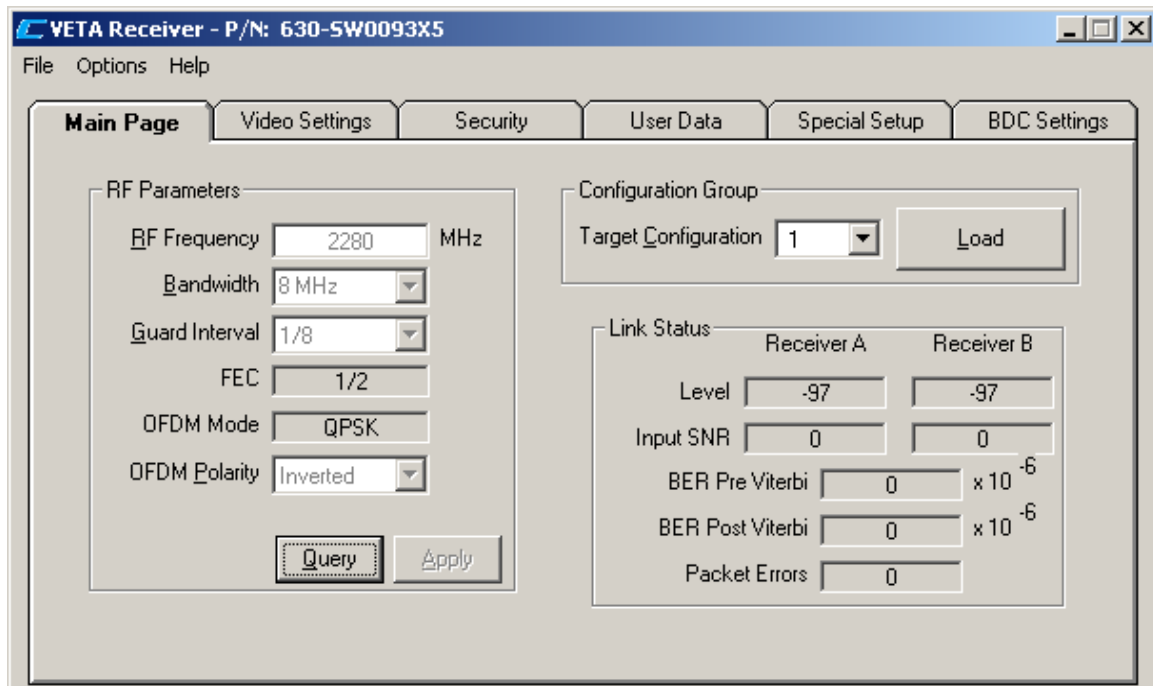


Figure 15 – Main Page Tab

5.1.1 The RF Parameters Group

This group consists of the following fields as shown in Table 1 below along with explanation of each. Any field marked “R” the column labeled ‘R/W’, indicates that the field is a “read” only (a status indicator). The user cannot change it. Any field marked “R/W” or *Read/Write*, indicates that the value can be changed by the user.

Table 1 – RF Parameters Field Definitions

Field	R/W	Description
RF Frequency	R/W	RF input frequency at BDC (block down converter) input. The receive frequency can be changed by entering the new desired frequency in this field.
Bandwidth	R/W	This field displays the bandwidth of the received OFDM signal. It should be set to the same bandwidth of the transmitter selected from the following values: 6, 7 or 8 MHz or with optional narrow bands 1.25 or 2.5 MHz
Guard Interval	R/W	User selects the guard interval which matches the transmitter. Guard interval sizes are selected from the following values 1/32, 1/16, 1/8 or 1/4. When in narrow band (1.25 or 2.5 MHz) guard intervals are limited to either 1/16 or 1/8.
FEC	R	This field displays the COFDM Forward Error Correction (FEC) that is being demodulated at the receiver. FEC values are 1/2, 2/3, 3/4, 5/6. When in narrow band (1.25 or 2.5 MHz) FEC values are limited to 1/3 or 2/3.
OFDM Mode	R	This field displays the COFDM constellation (QPSK, 16 QAM, or 64 QAM) that is being demodulated at the receiver (Narrow band uses only QPSK or 16 QAM).
OFDM Polarity	R/W	This field displays whether OFDM signal is set to Normal or Inverted Spectrum.

After changing any “R/W” field with a new value the user must click on the *APPLY* button for the change to take effect. The change that did not yet take place appears in a magenta color. This indicates that the displayed parameters are different from the current unit settings. Clicking on the *Query* button will cancel the operation and restore the display to the current unit values.

 **Warning: The RF Frequency, Bandwidth, Guard Interval, and OFDM Polarity settings must match the transmitter settings to establish the digital link.**

5.1.2 Link Status Group

This group consists of read only fields (status indicators). The indicators are for both receiver A and receiver B (diversity inputs). The fields are described in Table 2.

Table 2 – Link Status Field Definitions


Field	R/W	Description
Level	R	This field indicates the received signal level. Normal levels are around -15 to -90 dBm. Keep in mind signals greater than -15 dBm will overload the front end of the Block Down Converters (BDC) and cause poor performance. Signals less than -90 dBm may be too weak. The gain settings of the BDCs will affect these readings.
SNR	R	Input Signal-to-Noise Ratio (SNR). This read-only field conveys the SNR of the received signal as measured by the demodulator. <i>The value is expressed in dB.</i> In QPSK, values greater than 13dB represent strong RF signals. In 16-QAM, values greater than 18dB represent strong RF signals
BER Pre Viterbi	R	This read-only field conveys the Bit Error Rate (BER) of the received signal after Read-Solomon (Outer Code) Forward Error Correction (FEC) processing and before Viterbi (Inner Code) FEC processing in the receiver chain. <i>The value is expressed in 10^{-6}.</i>
BER Post Viterbi	R	This read-only field conveys the BER of the received signal after performing all error correction techniques in the receiver chain. <i>The value is expressed in 10^{-6}.</i> Any numbers greater than 0 in this field indicate the presence of un-correctable errors in the received stream and may result in packet errors.
Packet Errors	R	Indication of the number of packet errors in the transmit stream. Excessive packet errors will cause picture glitches and artifacts

The above fields are updated approximately every second.



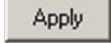

5.1.3 Configuration Group


The Configuration Group consists of a pull down box, in which one of sixteen configurations can be selected, along with a *LOAD* button. To change the Configuration Group, select the desired configuration number in the *Target Configuration* drop-down list. Then click the *Load* button. This will update the configuration in the unit. In the Front Panel Control group (located at the lowest right corner), there is a read only box, which shows current configuration.

The VETA Receiver can store (in memory) 16 configurations. These are pre-configured before leaving the factory but can be changed by the user. These 16 configurations are also set to match the transmitter before leaving the factory.

 **Warning: If a configuration group is changed, it may not match the transmitter configuration group and the digital link may no longer work. Keep in mind the receiver and transmitter configuration groups settings must match.**

What you should know about configuration groups:

- Any field that is a read/write (R/W) can be, and is, stored in a configuration group.
- A group is selected by choosing one of the 16 groups and then clicking on the  button. This action loads all R/W fields (under any of the tabs or pull down menus, not just the ) with the stored values of that group.
- A group can be changed by editing an R/W field and then clicking on the  button (“APPLY” also automatically saves). All R/W field values (under any of the tabs or pull down menus, not just the ) are stored to the current configuration group (the current selected group).

For example, assume that current group 1 is selected and the existing *RF FREQ* is set at 2300 MHz. If the user wants to change the RF frequency to 2250 MHz, the user changes the *RF FREQ* field to 2250 and then clicks on the  button. The new frequency is automatically saved to the current group 1.

5.2 Video Settings Tab


This tab allows for various video parameters (see Figure 16) to be selected. It consists of *Video Selections* and *Video Status* sections. The fields are explained in Table 3. Once again, you must click on the  button after new values have been selected in order for them to take effect.

Figure 16 – Video Settings Tab

Table 3– Video Selection Field Definitions

Field	R/W	Description
Power-up Video Format	R/W	This field allows user to select between <i>PAL</i> , <i>NTSC</i> or <i>NTSC with a 7.5IRE pedestal</i> . <i>NOTE: The VMR will automatically switch to the video format that it is locked onto (PAL or NTSC).</i>
NTSC Format	R/W	This field has two choices <i>NTSC</i> and <i>NTSC with pedestal</i>
Blue Screen On No Video	R/W	This field allows the user to select between a blue field video output (a <i>YES</i> value) or a freeze frame (a <i>NO</i> value) when no video is present.
MPEG 4 Deblocking filter	R/W	This field allows user to turn the filter <i>ON</i> or <i>OFF</i> . The receiver must have the 1.25 MHz BW option for this setting. (Only used in Narrow Band modes)
On Screen Display	R/W	The OSD can be turned <i>OFF</i> , monitor channel <i>A</i> or monitor channel <i>B</i> .
On Screen Display Mode	R/W	The selections are Standard OSD (see Figure 17), Alarm OSD Banner (displayed only when receiver is not decoding) and Others (displays X when link fails)

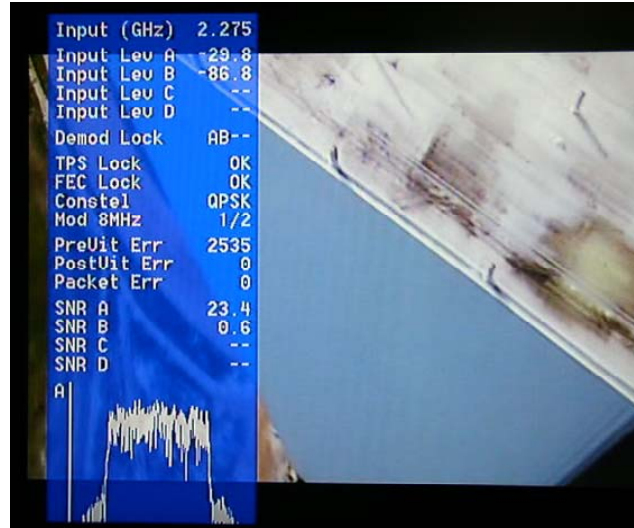


Figure 17 – Standard OSD

Table 4 – Video Status Field Definitions

Field	R/W	Description
Receiving Line Standard	R	This read –only indicator shows the Video Standard of received signal.

Field	R/W	Description
Received Video Type	R	Shows the standard of the incoming TS (MPEG-2 or MPEG-4)
TX Video Input Lock	R	Shows if incoming signal is locked on Video
Video PID	R	Shows the Video PID of TS
Audio PID	R	Shows the Audio PID of TS

5.3 Security Tab

This tab allows administrator to enable or disable encryption, to choose type of encryption to be used and enter the encryption key; ABS (supplied with link) and optional AES or AES/B-crypt. AES and AES/B-crypt have 4 sub selections: 128, 128+, 256 and 256+. 128 requires 32 hex symbols for the Key, while type 256 is more secure and requires 64 hex symbols. If the Receiver is in simple 128 or 256 modes, then the incoming signal can be decoded if the keys are matched or the incoming signal is not encrypted. While the + modes allow decoding of incoming signal only if it is encrypted and the security keys in the TX and RX match.

If encryption is turned OFF, then the Security Key window is displayed as shown in Figure 18.

The *Descrambling Mode* pull-down list shows all of the encryption modes. However if the unit does not have the corresponding license, it will return value that is licensed in the unit.

Security key field is different for different encryption modes. The modes that require 64 character key (AES, AES+, B-crypt, B-crypt+) have to two boxes for lower and upper parts of the key. See Figure 19.

The user must enter the correct key, which must match the key of the transmitter. Clicking on the button will notify the user if the incorrect number of characters have been entered. The user will not be able to exit this window unless the button is clicked or the correct amount of characters are entered.

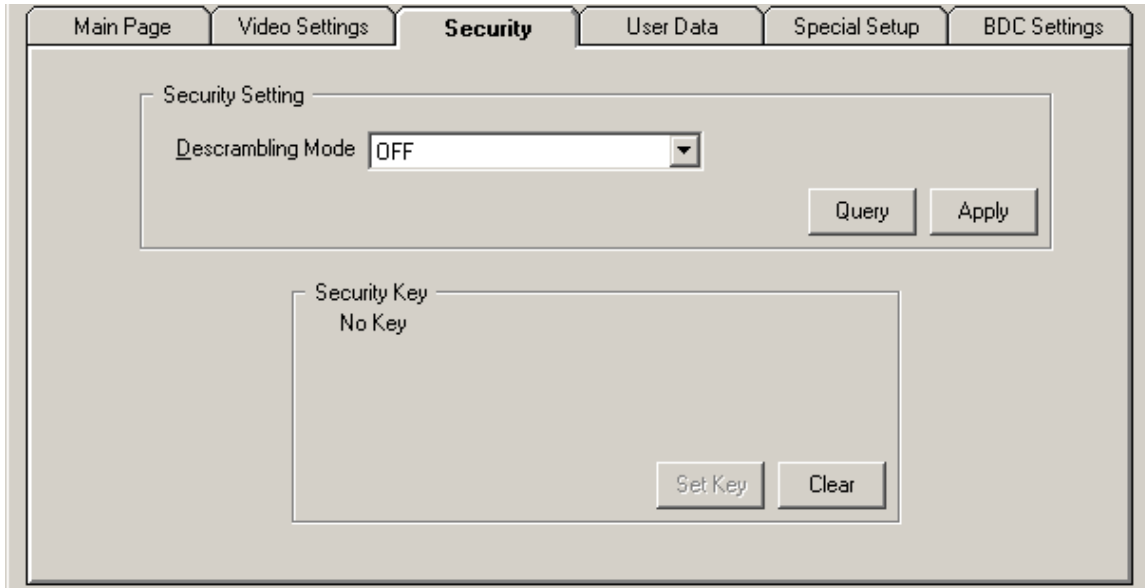


Figure 18 – Security Tab

Table 5 – Encryption Field Definitions

Field	R/W	Description
Descrambling Mode	R/W	This field allows user to select between OFF, ABS, AES 128, AES 128+, AES 256 or AES 256+. (AES 128 and 256 are optional).
Security Key	W	When any scrambling option is selected, the user is prompted to enter an encryption key. The difference between scrambling modes is the length of the key measured in characters: 8 for ABS, 32 for AES/BCRYPT128, or 32 upper and lower (64 characters total) for AES/BCRYPT256. For security purposes, the Security Key cannot be read back from any GMS product.

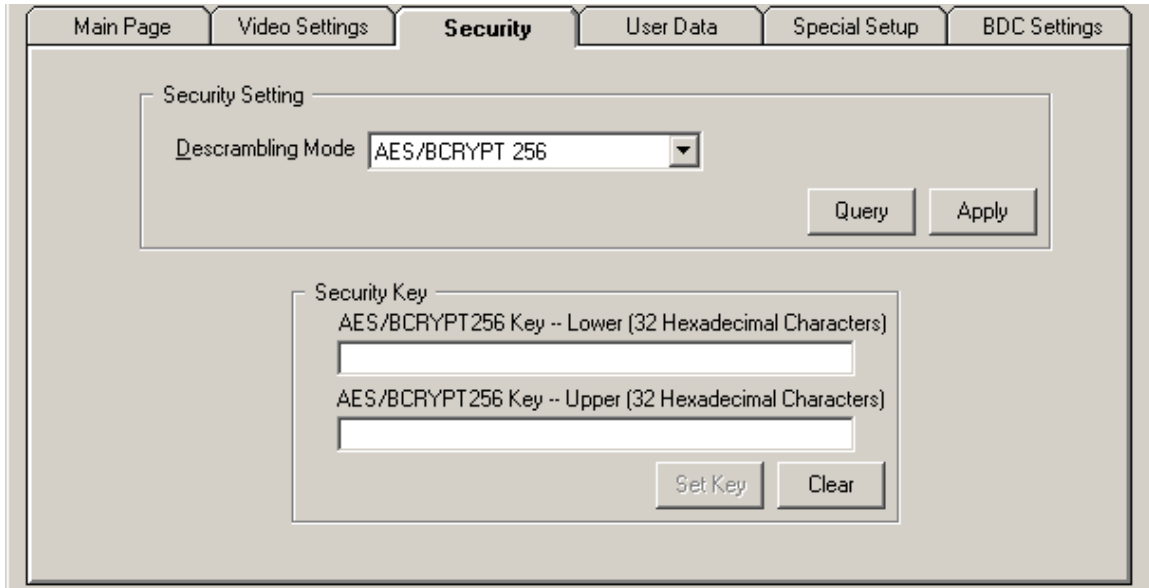


Figure 19 – Security Tab in B-crypt Mode

5.4 User Data Tab

This tab (see Figure 20) allows user to turn USER DATA ON or OFF. If turned ON, the receiver extracts any User Data component that may be in the transmitted stream. The data is presented on the DATA output port of the VR receiver on pins 8 & 9 of the J2 connector (see manual 100-M0087*). Refer to corresponding manual for other VETA Receiver products.

Table 6 – User Data Field Definitions

Field	R/W	Description
User Data	R/W	This field allows user to select between <i>ON</i> & <i>OFF</i> values. When the control is set to <i>ON</i> , the user can extract RS232 data from the data output port (J2 pins 8 & 9) of the receiver.
Data Baud Rate	R	This is a read only field that reports the baud rate of the RS232 data component that is present in the transport stream.
Data Parity	R/W	User can choose from <i>None</i> , <i>Even</i> or <i>Odd</i> .
Data PID	R/W	Shows the Data PID of TS

The DATA BAUD RATE field is a read only and reports the transmitted RS232 data baud rate. Data Parity reports Odd or Even Parity of the serial data component that is present and selected in the stream.

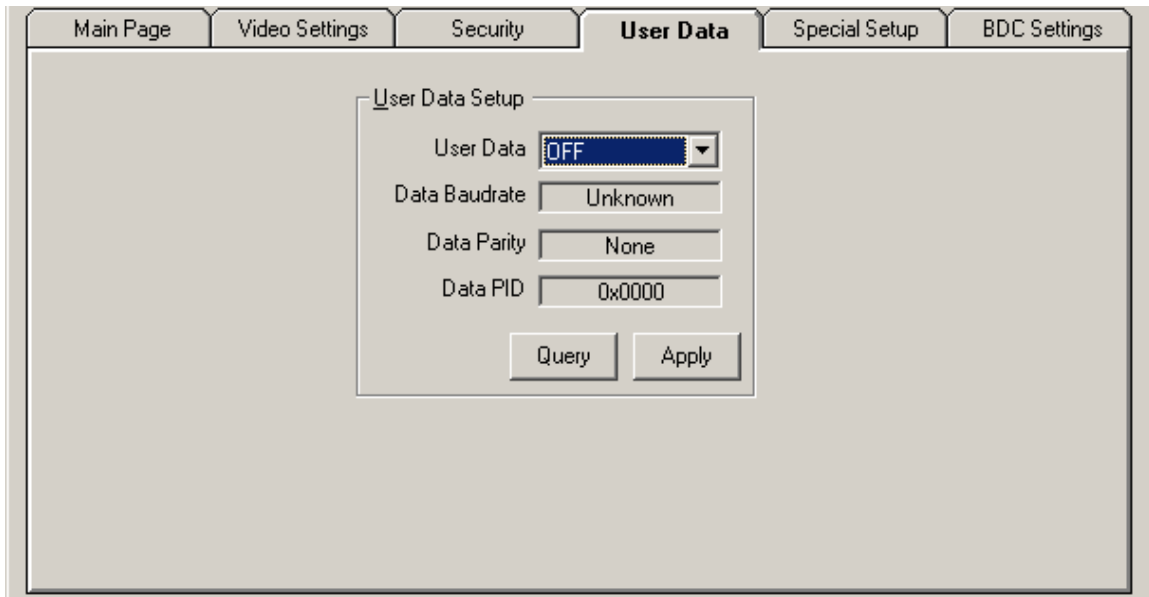


Figure 20 – User Data Tab

5.5 Special Setup

Special Setup is configured at the factory for specific application and for advanced operations only. Consult GMS before changing any of these parameters.

This selection brings up a window with special parameters (see Figure 21). Selections are described in Table 7

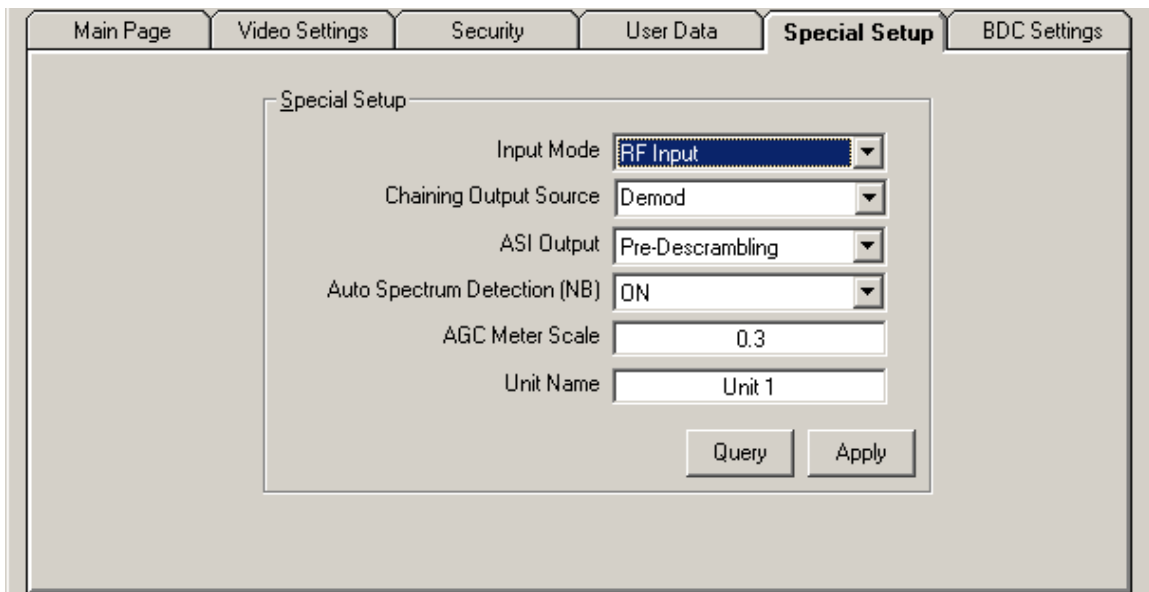


Figure 21 – Special Setup

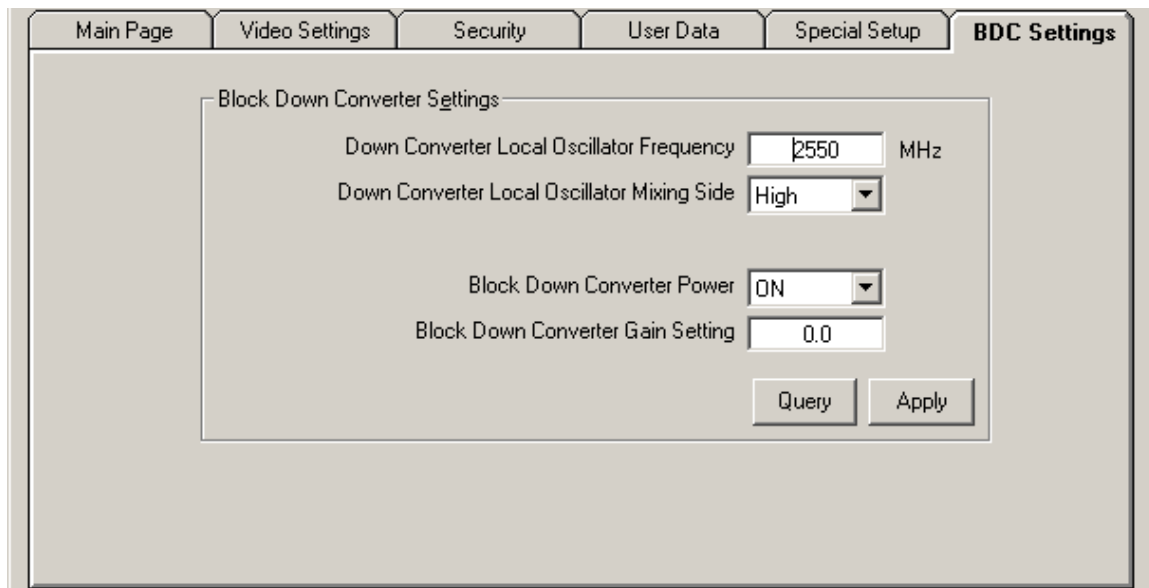
Table 7 – Special Setup Field Definitions

Field	R/W	Description
Input Mode	R/W	This field allows the user select between RF input and Chaining Input.
Chaining Output Source	R/W	The selections are Demod and Chaining In, determines the source for chaining output.
ASI Output	R/W	Allows to select ASI Output before or after Descrambling
Auto Spectrum Detection	R/W	When On the receiver toggles between 1.25 and 2.5 MHz BW mode until it detects a valid spectrum. This selection is valid for Narrowband only.
AGC Meter Scale	R/W	The range for this AGC scale is 0 – 10. Decimal point is allowed.
Unit Name	R/W	This field allows the user to enter an identifier for the service that they wish to receive, when services are multiplexed. The Name must match Unit Name of the transmitter that service to be decoded. It can be constructed of any 8 ASCII characters.

5.6 BDC Settings

BDC Settings Tab contains information about parameters of the built in the unit or external BDC-s. It is not recommended to change these settings in case of built-in BDC-s. The BDC Settings Tab is shown in the following Figure.

Keep in mind you must click on the  button in order for new values to take effect.



The screenshot shows a software interface with several tabs: 'Main Page', 'Video Settings', 'Security', 'User Data', 'Special Setup', and 'BDC Settings'. The 'BDC Settings' tab is active and displays the following settings:

- Block Down Converter Settings**
 - Down Converter Local Oscillator Frequency: 2550 MHz
 - Down Converter Local Oscillator Mixing Side: High
 - Block Down Converter Power: ON
 - Block Down Converter Gain Setting: 0.0

At the bottom of the settings area, there are two buttons: 'Query' and 'Apply'.

Figure 22 – BDC Settings

See Table 8 for an explanation the fields.


 **Warning: These values are pre-set at the factory for each configuration group. If the values are changed, they can prevent the digital link from working. Ensure they are correct before changing.**

Table 8 – Block Down Converter Settings Field Definitions

Field	R/W	Description
Local Oscillator Frequency	R/W	This field allows definition of the local oscillator <i>FREQUENCY</i> of the BDCs (block down converters).
Down Converter Local Oscillator Mixing Side	R/W	This field allows definition of the local oscillator side. Values are either <i>HIGH</i> or <i>LOW</i> side injection. High side injection means the LO is at a higher frequency than the RF. So if 'RF freq' – 'LO freq' = IF freq, then the IF Freq will be negative or the spectrum will be inverted. The opposite is true for <i>LOW</i> side injection. Selection of these values depends on the BDC-s used. They will vary depending on manufacturer.
Block Down Converter Power	R/W	This field determines if DC power is supplied to the BDC-s via the IF Cable. Values are <i>On</i> or <i>OFF</i> . Caution: Make sure that the IF cable is not shorted prior to enabling DC power.
Block Down Converter Gain Setting	R/W	This field allows different gain values to be entered for the BDCs. <i>It does not affect the gain of the system.</i> It only allows for a more accurate reading of the received signal strength.

6. Pull-Down Menu Definitions

This section discusses the Pull-Down Menus that include *File*, *Options* and *Help*.

6.1 File

This menu contains only one selection - *Exit*. The *Exit* selection closes and exits the PC control software. Alternatively, the X box in the upper right hand corner of the window can be used to exit the program.

6.2 Options

The number of selections in this menu depends on login level.

For user level, this menu contains only one menu – Administrative Login, which allows the user to access more selections and widen the control by entering password that can be obtained from GMS. The password cannot be changed. Contact the factory for the password.

Administrator login (see Figure 23) adds the following selections:

- Load Configuration File
- Write License Code
- Write License File
- Restore Default Configuration
- Log Off
- Create Log File

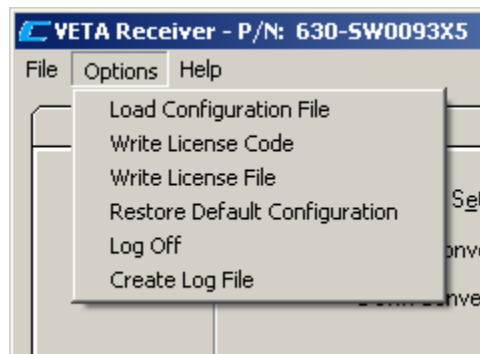


Figure 23 – Options

6.2.1 Load Configuration File

This special feature allows the Administrator to change all the parameters of the unit at once. GMS provides Configuration File that can be modified before loading into the unit. Examples of Default Configurations File for VR-s are shown in Table 9 and Table 10.

After the desired changes are made in the file, save and close it. Ensure that no other Excel file is open during loading. Click *Load Configuration File* and select file from desired location.

6.2.2 Write License Code/File

This option allows the user to enable features that are optional (e.g. advanced encryption) when new licensing option is purchased, without sending the unit back to factory. Depending on the version of the unit, the user will need to load Code or File. Contact GMS for details.

6.2.3 Restore Default Configuration

This option should be selected only after new Firmware was loaded into the unit.

6.2.4 Log Off

Clicking *Log Off* will restrict access to User Parameters only.

6.2.5 Create Log File

Clicking on this selection will create a log file in the same directory as the application. E.g. if the program is on the desktop, then a *Logfiles* folder will be created automatically. This folder will contain text file with the time stamp in the file name. The log file lists all the commands that were executed.

6.3 Help

Help menu has three selections: *Manuals*, *FW Version* and *About*.

6.3.1 Manuals

This manual is attached to the Control Software. Clicking this selection will launch the manual as a PDF file.

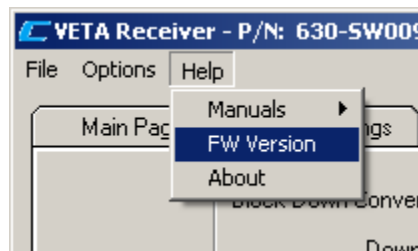


Figure 24 – Help

6.3.2 FW Version

This menu contains the Firmware Version of the unit, FPGA Version number of the firmware and the Serial number of the unit. See Figure 25.

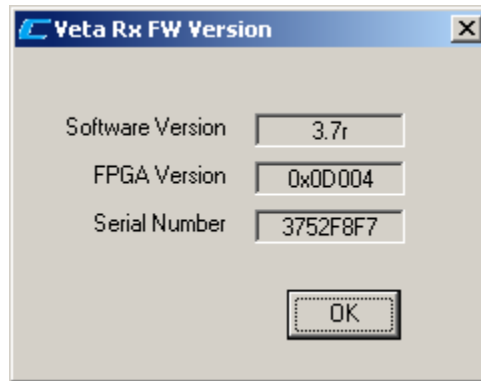


Figure 25 – FW Version Window

6.3.3 About

Choosing this selection displays the *Software* version of the PC control program. See Figure 26.



Figure 26 – About Box Window

Appendix A Default Configurations

Table 9 – Typical Default Configurations File for LS-Band

PARAMETER	CONFIGURATIONS																
Config #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Unit Mode	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	DVBT	NB	NB	NB
BDC LO	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550	2550
BDC Side	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
BDC Gain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COFDM BW	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	2.5Mhz	2.5Mhz	2.5Mhz
RF Frequency	1755	1802	1850	1755	1802	1850	2200	2300	2400	2200	2300	2400	2345	1802	2300	1802	
Modulation GI	1/4	1/4	1/4	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/32	1/32	1/32	1/4	1/16	1/16	1/16
OFDM Polarity	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Invert	Invert	Invert
NTSC Format	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC
Blue Screen on no Video	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MPEG4 deblocking Filter	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes
On screen Display	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Auto Spect Detect	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Descrambling	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LNB Power	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Power up Video Format	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525

Table 10 – Typical Default Configurations File for CB-Band

PARAMETER	CONFIGURATIONS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Config #																
Unit Mode	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	DVB-T	NB	NB	NB
BDC LO	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200
BDC Side	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High	High
BDC Gain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COFDM BW	8 MHz	8 MHz	8 MHz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	8Mhz	7Mhz	2.5Mhz	2.5Mhz	2.5Mhz
RF Frequency	4400	4700	5000	4400	4700	5000	4400	4700	5000	4400	4700	5000	4400	4700	5000	4400
Modulation GI	1/4	1/4	1/4	1/8	1/8	1/8	1/8	1/8	1/8	1/32	1/32	1/32	1/16	1/16	1/16	1/16
OFDM Polarity	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
NTSC Format	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC	NTSC
Blue Screen on no Video	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MPEG4 deblocking Filter	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes
On screen Display	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Auto Spect Detect	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Descrambling	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
LNB Power	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Pwr up Video Format	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525	525

Appendix B USB Driver Installation

Overview

This appendix provides instruction on the installation of the USB driver. This driver is only required for communications with Messenger VETA Receiver Decoder (MVRD). Other receivers of the VETA family do not require this driver.

The USB driver should be installed **before** the MVRD is connected to the computer.

File Extraction and Installation

NOTE: Screens may differ based on your operating system and user setting.

Locate the 630-SW0145X2.exe file in the c:\Program Files\Cobham\USB_Driver directory.

Run the installation application 630-SW0145X2.exe. The first section of the program extracts the driver files. The second section performs the driver installation.

The application will initially show a screen like that shown in Figure 27.



Figure 27 - Initial USB Driver Installation Screen

The Preparing Setup screen, shown in Figure 28, will appear after a few seconds.

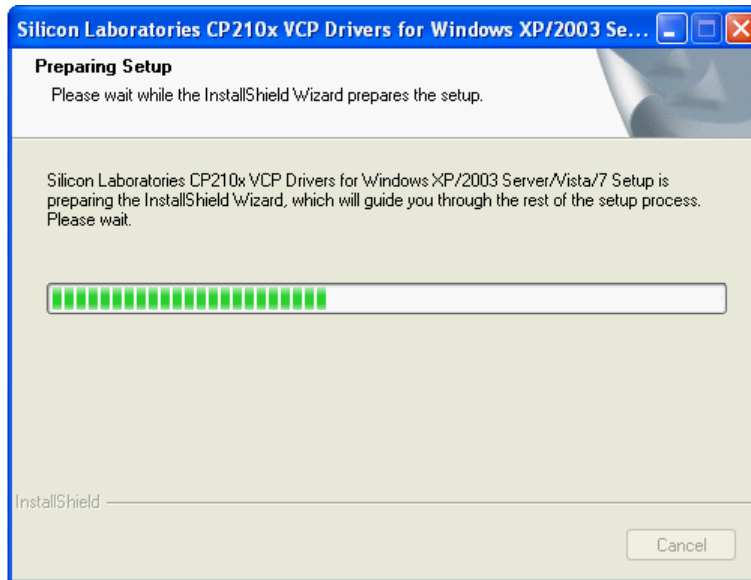


Figure 28 – Installation Wizard Preparation

The welcome screen, shown in Figure 29, appears when the wizard is ready to begin installation and waits for user input. Select the Next button to proceed.



Figure 29 – Installation Welcome Screen

The License Agreement, see Figure 30, screen is next in the installation. Accept the terms of the license agreement and the Next button will become enabled. Installation cannot proceed if the license terms are not accepted. Select the Next button to proceed.

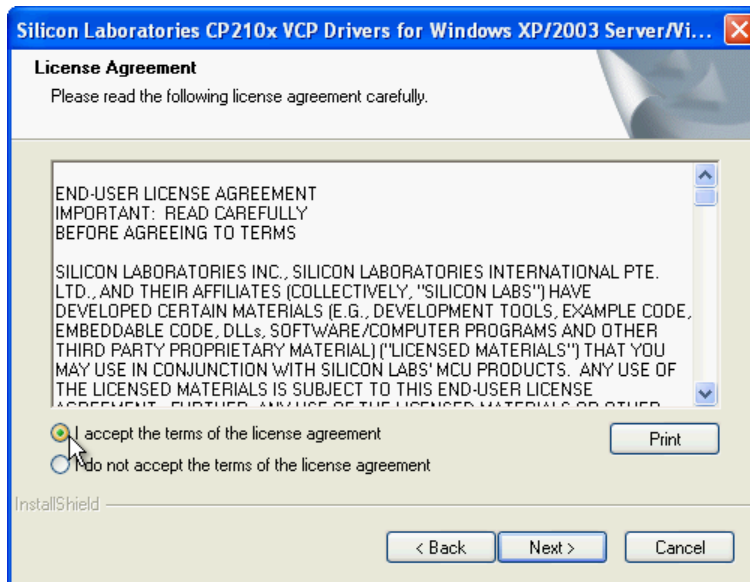


Figure 30 – License Agreement

Accept the default destination location offered in the next screen (see Figure 31).

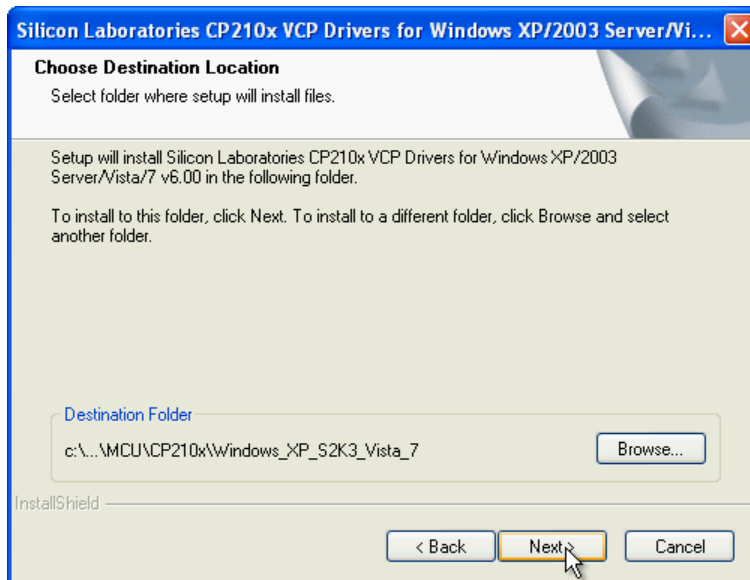


Figure 31 – Installation Destination Directory

The program is ready to unpack the driver and presents the Ready to Install screen as shown in Figure 32. Select the Install button to proceed.

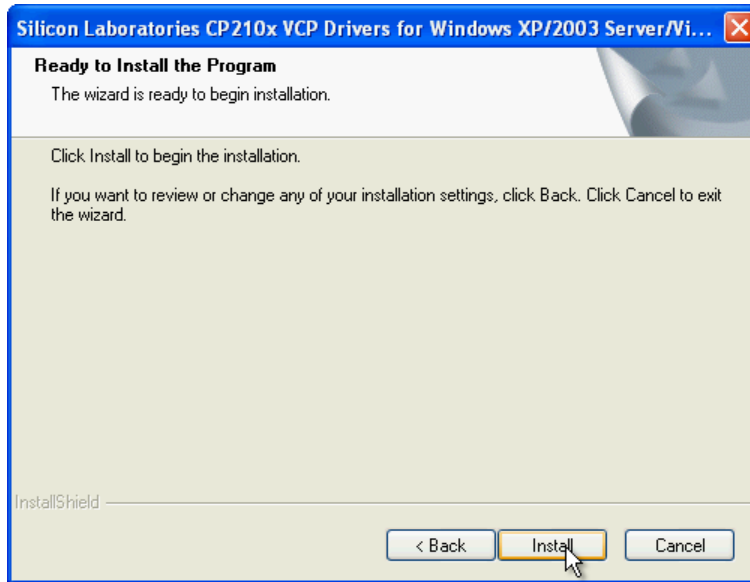


Figure 32 – Start Installation

The wizard will start extracting files. It provides a status screen like that shown in Figure 33. This process only lasts for a few seconds.

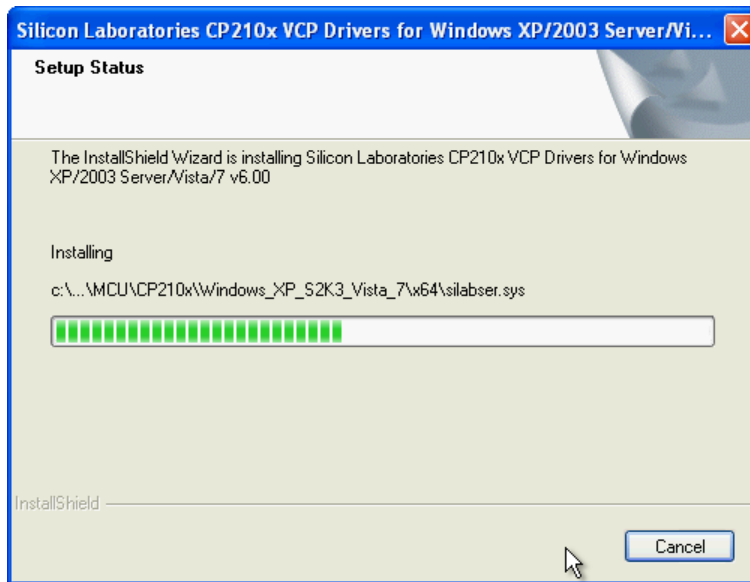


Figure 33 - Installation Status

Upon completion of the file extraction, the wizard shows a screen, see Figure 34, that announces the extraction process has been completed. The screen has a preselected check box to Launch the CP210x VCP Driver Installation. Ensure that it is selected and click the Finish button.

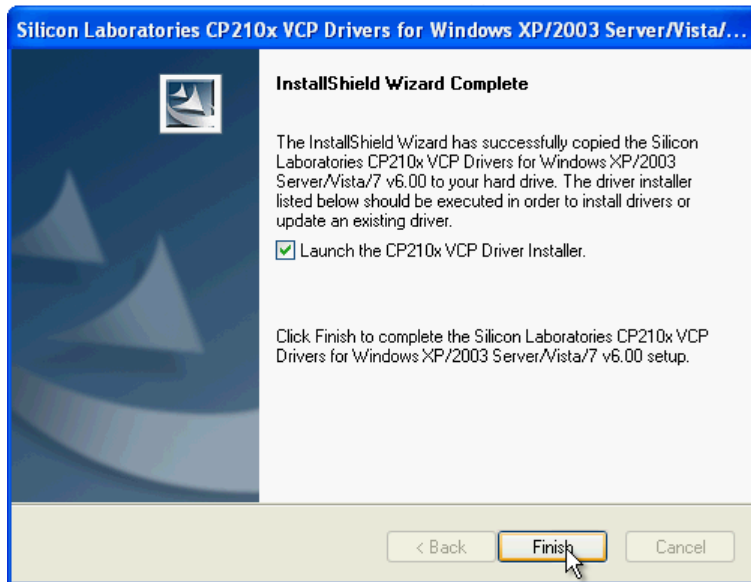


Figure 34 – Installation Completed

The wizard terminates its execution and calls the driver installer (see Figure 35). Accept the default installation directory and click the Install button.

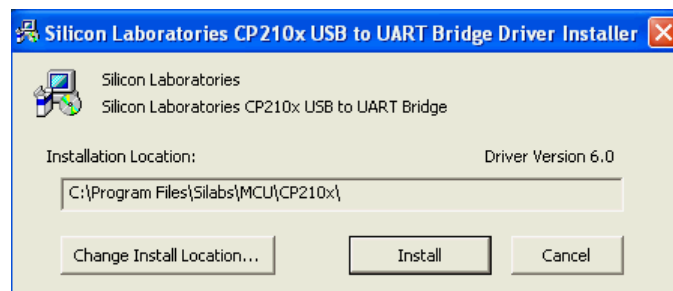


Figure 35 – USB Driver Installation

The installer will examine the system configuration (see Figure 36). This process may take some time and is dependent upon your individual system.

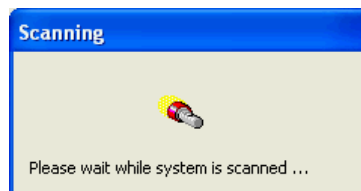


Figure 36 – System Scanning

When the scanning is completed, the installer copies the driver files (see Figure 37).

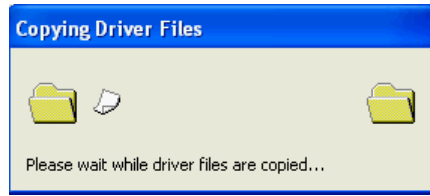


Figure 37 – Copying Driver Files

The screen in Figure 38 is shown when the installation is successfully completed.

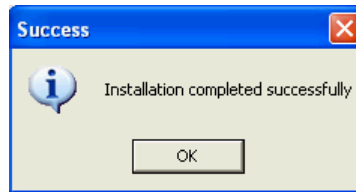


Figure 38 – Installation Successfully Completed

Hardware Installation

The computer's Operating System (OS) handles the hardware installation automatically. Each OS provides slightly different feedback.

Plug the USB connector of the MVRD control cable into an available USB jack. The installation process should start almost immediately. Typically, the OS shows a notification icon, like that shown in Figure 39, in the notification area of the taskbar. There may be step by step notifications or just a successful completion notification (as shown in Figure 40). In some cases, the OS may need to be restarted. If that is the case, a screen like Figure 41 will be displayed.



Figure 39 – Hardware installation Notification Icon

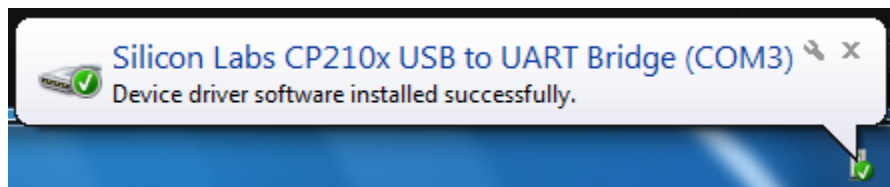


Figure 40 – Hardware Device Driver Installation Completed

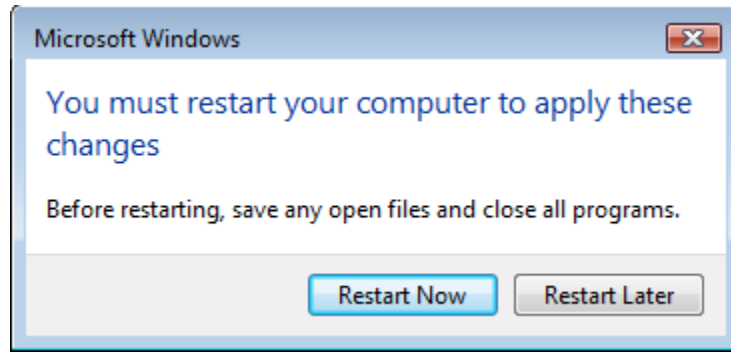


Figure 41 – Restart Required

This completes the USB driver installation. The MVRD will now be able to communicate with a properly installed control GUI.