Vantiva UCW4026MCS & UCW4060MCS Installation Manual

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REVISION RECORD			
Revision	Date	Revision Editor	Revision Description
1.0	6-6-19	Angelo Peruch	Release Version 1.0
2.0	8/11/23	Angelo Peruch	Add UCW4060MCS

Contents

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1   Introduction

The UCW4026MCS and UCW4026MCS are setback tuner boxes (for the use of this manual both units are referred to as boxes) intended for use with the DirecTV Advanced Entertainment Platform (AEP).
They will tune both RF signal (QAM) and multicast IPTV streams.
In addition to the STB the unit ships with a remote control, power supply, and HDMI cable.
The boxes ships with a basic set of applications or APK's. DirecTV provides automated product updates, additional APK's, customization, monitoring, and control using the DirecTV Advanced Entertainment Platform cloud services. To access these services, the boxes must be associated with a registered COM51 on the property. Please work with your distributor in order to register your COM51 to the AT&T AEP cloud prior to installation. Upon installation on a COM System with a properly registered and configured COM51, the units will automatically connect to the AEP cloud via its network connection and will be automatically associated with the property.

2   Connections

The boxes will connect to coaxial cable for QAM signal, and ethernet for Multicast IPTV.
Connection to the TV is via HDMI cable connected to the HDMI output.
MPI/MTI cables from commercial televisions connect to the MPI/MTI port.
There are two USB ports used for software updates.
A 3.5mm jack is provided for an IR remote control target.
Included power supply is to be connected to 12V DC input.

3   COM51 Setup

Verify all COM system software is current.

Visit https://www.vantiva.com/video-multi-client-solutions-documentation-library for the latest available software, and refer to the COM3000 Integrator's Manual for instructions to update these components.

3.1   Configuring the QAM

The boxes use RF channel 23 to receive configuration data, guide data and to receive software updates when available.
RF channel 23 **must always** be the first RF channel in the lineup corresponding to QAM index 1, as shown below in Figure 1 - QAM20 output.

Mega-Bits Per Second

Port = QamChannel * 16 + QamSubChannel

	PortBase	Chan	-1	-2	-3	-4	total
Qam1	16	23	4.5	4.3	0.0	0.2	9.1

Figure 1 - QAM20 output

Ports 18 and 19, channels 23-2 and 23-3 are disabled when sending a software update. Software updates should be infrequent and can be scheduled during off-peak hours, but it is our recommendation to place lower priority channels on these carriers as the video service may be interrupted for a short time during a software update event.

3.2   Set Pro:Idiom Mobile Site Key

The boxes uses Pro:Idiom Mobile (PIM) encryption. Each site will require a unique PIM key be entered in all COM 46/51 cards.

The key must consist of 64 hexadecimal characters:

Numbers 0-9 and/or Letters a-f

Example Key (do not use this on your system):

0123456789abcdef9876543210fedcba0123456789abcdef9876543210fedcba

Vantiva recommends using a site like:

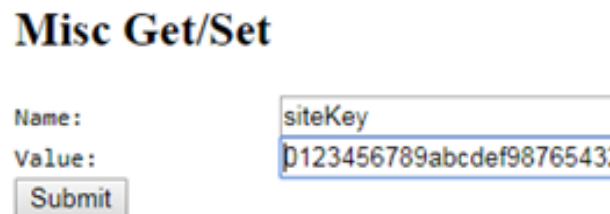https://www.browserling.com/tools/random-hex

to generate the 64 hexadecimal key. Save the key to a file for future reference.

To enter the Pro:Idiom Mobile (PIM) key navigate to: Discover Page > Click Channel#> Advanced Edit >Misc Get/Set as shown below in Figure 2- COM51 Misc Get Set.

Enter Name: siteKey (case sensitive)

Enter the PIM Key in the Value field of the Get/Set section

Click Submit

Misc Get/Set

Name: siteKey

Value: 0123456789abcdef98765432

[Submit]

Figure 2- COM51 Misc Get Set

All Pro:Idiom Encrypted streams will include Pro:Idiom Mobile keys using the specified PIM key.

Repeat this process for every COM51 or COM46 in the system.

3.3   GUIDE.XML

The UCW4026MCS will require a GUIDE.XML and a CONFIG.XML file from COM51 in order to properly operate in any capacity in either a QAM or IP installation.

Both the GUIDE.XML and the CONFIG.XML should be generated using the same COM51 card in the system. Generally, it is good practice to select the card in slot 1 for this responsibility, but it is not a requirement. Whichever card is selected to originate the GUIDE.XML and CONFIG.XML will also be used to send any software updates to the UCW4026MCS devices.

Configure Guide.XML according to standard EPG instructions. You can click EPG->Guide.xml to configure the system with the list of channels currently playing.

In the Mode section enter 13 as shown below in Figure 3 - EPG Guide.XML.

Electronic Program Guide Display

DestIP:	1.2.3.4	
DestPort:	0	
TimezoneOffset:	5	Pacific=8;Mountain=7;Central=6;Eastern=5
TimezonePsip:	5	
Mode:	13	0=normal; 1=ignoreDST; 2=Welcome screens (welcome#.bmp); 3=guide.xml; 13=Android
LogoTftpServerIP:		
LogoFilename:		170x60 24bbp bmp bitmap file

Figure 3 - EPG Guide.XML

For a QAM deployment, the DestIP would be 1.2.3.4 as shown in Figure 3 above.
For and IP Multicast deployment, the DestIP will be 226.2.3.4. This change affects the guide.xml, config.xml, command.xml, and software updates. Be sure this multicast ip address in not in use on FTG channels.
Allow a few minutes for the COM51 to download and format the data for this information to be available to the UCW4026MCS.
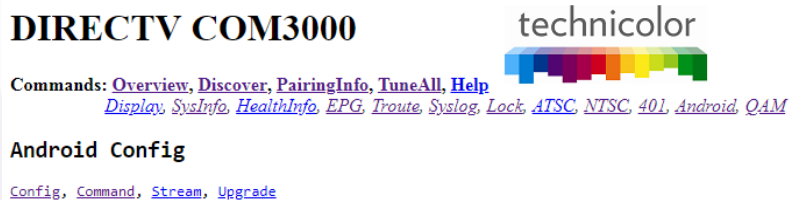WARNING: If you use a different COM51 to generate a scrolling guide (mode=0) then you must set either the chassis or port to -1 for all channels on the COM51 generating the scrolling guide. Otherwise, the COM51 will generate PSIP data in addition to the scrolling guide. The PSIP data is broadcast on the same PIDs as the guide.xml, config.xml, command.xml, and software updates. While the system might still work, acquiring the guide.xml and obtaining software updates will be very problematic.
Simultaneous operation of AEP boxes and PSIP data is not supported.

3.4   Set up CONFIG.XML

The CONFIG.XML file is used to send global information to a wide set of devices that are connected to the COM51. This includes network configuration data, device settings and software updates. The CONFIG.XML file also transmits the PIM key from the COM51 to the devices so that each device can playback video content. Without a CONFIG.XML file, PIM encrypted content is not viewable.
Navigate to the Android tab on the COM51 interface as shown in below in Figure 4 - Android Config.

DIRECTV COM3000

technicolor

Commands: Overview, Discover, PairingInfo, TuneAll, Help
Display, SysInfo, HealthInfo, EPG, Troute, Syslog, Lock, ATSC, NTSC, 401, Android, QAM

Android Config

Config, Command, Stream, Upgrade

Figure 4 - Android Config
To set up a basic CONFIG.XML on the system, enter the text below in the config.xml as shown in Figure 5 - Android Config.xml.

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
  </system>
</configuration>
```

Press Submit

```
Config.xml

<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
  </system>
</configuration>
```

Submit   Disable

Figure 5 - Android Config.xml

Add Wi-Fi Configuration to the Config.xml
The UCW4026MCS can be configured to connect to the property Wi-Fi network.
The COM51 can send a Wi-Fi config file with SSID and Password information.
The SSID must be visible in the Wi-Fi network.
If there are multiple SSIDs for use by UCW4026MCS devices at the property, each UCW4026MCS will need to be manually programmed for network connection using the set top user interface. COM51 cannot be used to send Wi-Fi SSID and Password information in the case of multiple SSIDs.
Add the SSID name and Wi-Fi password to the text below and enter the Android Config section. Entry must be added between the <system> and the </system> statements as shown below in Figure 6 - SSID Config.

```
<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
    <wifiSsid>ENTERSSIDName</wifiSsid>
    <wifiPassword>ENTERWi-fIPASSWORD</wifiPassword>
    <wifiSecureType>WPA</wifiSecureType>
  </system>
</configuration>
```

Figure 6 - SSID Config

Click Submit

4 Software Updates

Vantiva and DIRECTV have developed processes that will automate software updates, so that all deployed boxes will receive and install updates without any user intervention. You may refer to the below instructions should a manual update be necessary.
NOTE: For QAM deployments, the UCW4026MCS will receive software updates from the COM51 on RF channel 23. Video service on the sub-channels (23-2 & 23-3) will be affected during the software update.

File Upload
Step One: Upload Software
UCW4026MCS software is in a compressed .zip file. The filename must not be changed.
Using the Browser Upload function available in the PairingInfo page, upload the file to the COM51 card generating the GUIDE.XML and CONFIG.XML files as shown below in Figure 7 - Software Upload.

Software Upgrade:
Usage: 2 = SW_Upgrade ▾
Server_IP_Address: 192.168.3.18
Filename: MCS_ver_R-2.19.8_CRC32_
Mode: 0 = TFTP ▾
Submit

Figure 7 - Software Upload

Using the Upgrade Feature

After Step 1 above a user may simply click on the Upgrade button.   An alternative manual process is described below.
Manual method (alternate method)

Step Two: Modify the Config.xml
Navigate to the Android tab of the COM51 and click on the config option.
Add the software file name and enter the following text in the Config.xml.
For Update over QAM

<?xml version="1.0" encoding="UTF-8"?>
<configuration>
  <system>
    <systemSoftwareUpdate>QAM='23' FileName='enter_software_file_name'</systemSoftwareUpdate>
  </system>
</configuration>

Click   [Submit]

For Update over IP

<?xml version="1.0" encoding="UTF-8"?>
<configuration>
 <system>
  <systemSoftwareUpdate>IP='226.100.0.203:6003'
FileName='enter_software_file_name'</systemSoftwareUpdate>
 </system>
</configuration>

Click   [Submit]

Step Three: Send a COMMAND.XML
While information that a software update is available for the boxes is sent via the CONFIG.XML, the devices do not constantly check the CONFIG.XML. In order to "refresh" the CONFIG.XML, you can send a COMMAND.XML file.

Navigate to the COMMAND tab and simply press SUBMIT. A general command is automatically generated and sent to all the boxes to refresh the CONFIG.XML file. Once the COMMAND is sent, the UCW4026MCS is ready to receive the update file. For a QAM system, the unit will go to a black screen with the display "Software System Update". For an IP system, video will continue to play without interruption.

Step Four: Stream the Update
Click on "Stream" in the Android tab on the COM51. This will initiate the file transfer of the software file currently in the Browser Upload from the COM51 to the boxes. For a QAM installation, you can verify

progress on the display as the file is being received. Video will continue to be available for an IP deployment. When completed, the box will reboot.

All the boxes that received the update will ignore any CONFIG.XML message to update to a new image, yet some devices may not have adequate time or completely received the update file. Any device that did not update yet continues to see the update file available in the CONFIG.XML may display the "System Software Update" message if in a QAM deployment. You can choose to continue streaming the update, or you may remove the systemSoftwareUpdate text from the CONFIG.XML.

4.1   Software Update via USB Flash Drive

To update the boxes via a USB flash stick, copy the software image to the USB flash stick.
Insert the USB flash stick into the box. Remove power from the box, then using a paper clip, press and hold the reset button as shown below in Figure 8 - Reset Button, while re-apply power. Continue to hold the reset button for 10 seconds.

Figure 8 - Reset Button

A menu will then appear that will permit you to upgrade the software and select a file from the USB stick. Choose "Apply update from USB" as shown below in Figure 9 - Android Recover Screen and then select the filename.

Figure 9 - Android Recover Screen

Remove the USB stick and select "Reboot system now".

5 Admin Settings

To access the box Admin Settings, use the remote control to press and hold the Reverse (<<) and GUIDE buttons simultaneously for 4 seconds (Figure 10 - Remote Control) to display the pin entry screen (Figure 11 – Admin Settings Pin Entry):
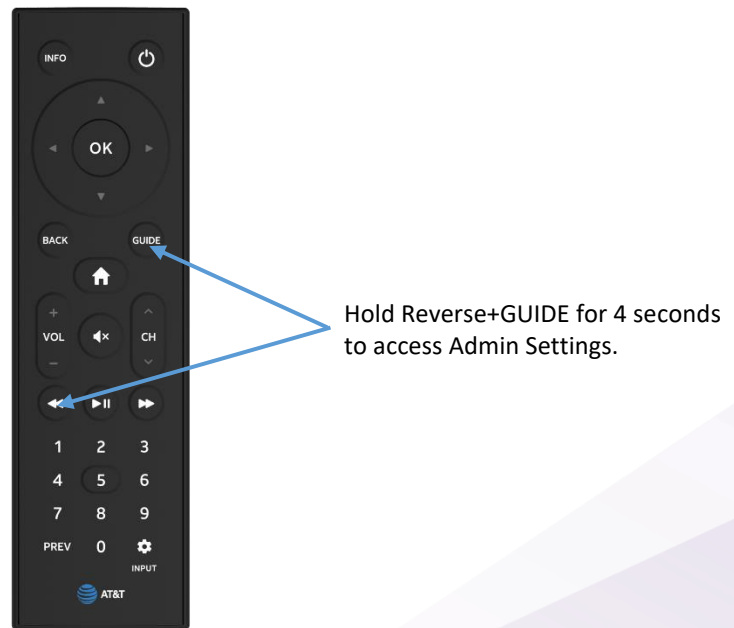

Hold Reverse+GUIDE for 4 seconds to access Admin Settings.
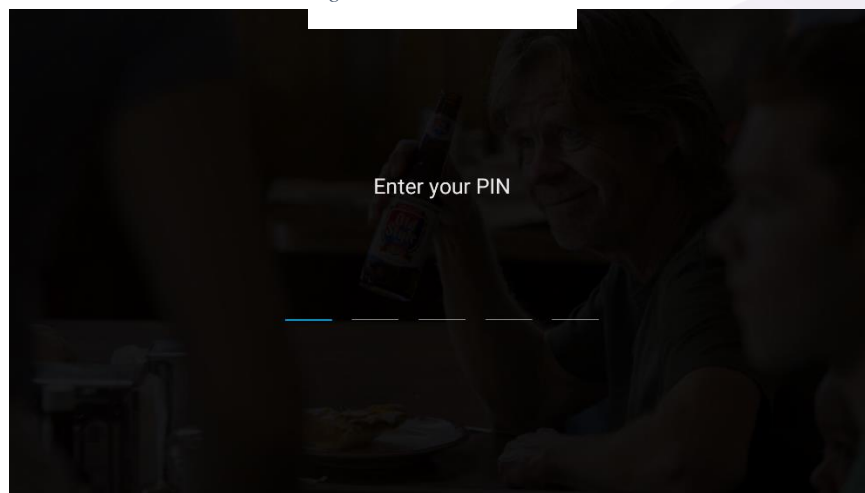
Figure 10 - Remote Control

Figure 11 – Admin Settings Pin Entry

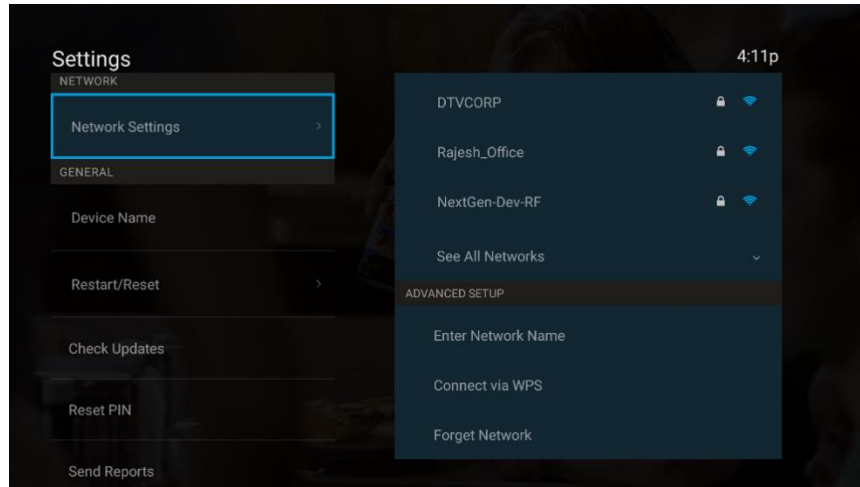Using the remote, enter the pin to access Admin Settings. The default pin from the factory is 75309. The Admin Settings menu will then be displayed as shown in Figure 12 – Admin Settings.

Figure 12 – Admin Settings