Overview

Vision[2] TDS provides multiple live Digital TV (DTV) or MPEG channels over a standard IP network. The following table lists the hardware and tools included in each Vision[2] TDS kit:

VISION[2] TDS KIT SPECIFICATIONS	
V2-TDS (**FG3100-33K**)	• 6 Live DTV Transport Streams • 1 Digital TV appliance
V2-MPEG-LIVE (**FG3100-34K**)	• 6 Live DTV Transport Streams • 6 Live MPEG2 channels • 1 Digital TV appliance

The Digital TV appliance enables you to connect to DVB transmitters and MPEG encoders to provide DVB and MPEG channels over your IP network.

FIG. 1 DIGITAL TV APPLIANCE

The following table lists the specifications for the Digital TV Appliance:

DIGITAL TV APPLIANCE SPECIFICATIONS	
Processor:	• One Quad-Core Intel® Xeon® 3420 series processor
Memory:	• 2GB Memory (2x1GB), 1066MHz Single Ranked UDIMM
Storage:	• 160GB 7.2k RPM Serial ATA 3Gbps 3.5-in Cabled Hard Drive-Entry
Power:	• Single cabled power supply (250W)
Front Panel Components:	
USB ports	• 2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
Video connector	• 1 15-pin (female) video connector for connecting a video output device such as a PC monitor
Rear Panel Components:	
Serial connector	• 1 9-pin serial connector
Video connector	• 1 15-pin (female) video connector for connecting a video output device such as a PC monitor
USB ports	• 2 USB 2.0 ports for mouse, keyboard, or external peripheral devices
LAN connectors	• 2 RJ-45 LAN ports for connecting to a network router
Operating Environment:	• Operating Temperature: 10º C to 35º C (50º F to 95º F) • Storage Temperature: -40º C to 65º C (-40º F to 149º F) • Operating Relative Humidity (non-condensing twmax=29º C): 20% to 80% non-condensing • Maximum humidity gradient: 10% per hour, operational and non-operational conditions • Storage Relative Humidity: 5% to 95% non-condensing (twmax=38º C)
Dimensions (HWD):	• 1 11/16" H x 17 1/8" W x 15 1/2" D (4.26cm H x 43.1cm W x D x 39.37cm)
Weight:	Rack Weight 17.76 lbs (8.058 kg)
Optional Accessories:	• DTV-TX01-DVB-T Digital TV Transmitter (**FG1410-01**) • DTV-TX02-DVB-S Digital TV Transmitter (**FG1410-02**) • DTV-TX03-US Digital TV Transmitter (**FG1410-03**) • MAX-CSE Encoder (**FG2178-70**) for Live MPEGs channels • NetLinx Integrated Controllers • Dell PowerConnect 2824 network switch

DVB Installation

The following steps show how to setup a typical DVB configuration for Vision[2] TDS.
1. Connect the power supply to the rear of the Digital TV appliance.
2. Connect an RJ-45 LAN cable to LAN port two on the back of the Digital TV appliance (FIG. 2). Connect the other end to your Video LAN.

Note: Vision[2] uses typical UTP/STP cabling for RJ-45 connections.

To Client-side LAN ← → To Video LAN

FIG. 2 DIGITAL TV APPLIANCE (REAR PANEL)

3. Connect an RJ-45 LAN cable to your Video LAN. Connect the other end of the cable to ETHERNET 10/100 port on the front panel of a digital TV transmitter (FIG. 3).

Ethernet 10/100 port

FIG. 3 DTV-TX01-DVB-T TRANSMITTER (FRONT PANEL)

4. Connect a coaxial cable to the RF IN connector on the rear of the digital TV transmitter. Connect the other end of the cable to an available DVB source. If you are using the DTV-TX03-US transmitter, use the RCA-to-Coax adapter provided with the transmitter when connecting the coaxial cable to the TUNER IN connector on the rear of the unit.
5. Repeat steps 3 and 4 for each DVB transmitter in your Vision[2] solution.

Note: Consult the AMX TDS Operation/Reference Guide for information on using the various digital TV transmitters available from AMX.

Live MPEG Installation

The following steps show you how to setup a typical Live MPEG configuration for Vision[2] TDS.
1. Connect the power supply to the rear of the Digital TV appliance.
2. Connect an RJ-45 LAN cable to LAN port one on the back of the Digital TV appliance (FIG. 2). Connect the other end to your Client-side LAN.
3. Connect an RJ-45 LAN cable to the LAN port on the rear of the MAX-CSE encoder. Connect the other end of the cables to any of the ports on your client-side LAN switch.
4. Connect a composite or S-video cable to the corresponding ports on the rear of the MAX-CSE encoder. Connect the other end of the cables to a device capable of producing a video signal. The MAX-CSE encodes the video signals into MPEG-2 multicast streams.
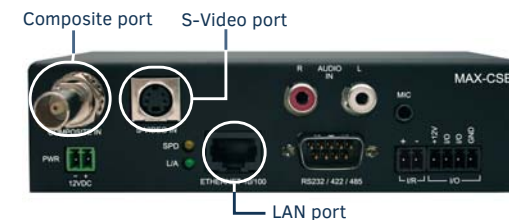

Composite port   S-Video port

LAN port

FIG. 4 MAX-CSE ENCODER (REAR-VIEW)

5. Repeat steps 3 and 4 for each additional MAX-CSE encoder in your Vision[2] solution.
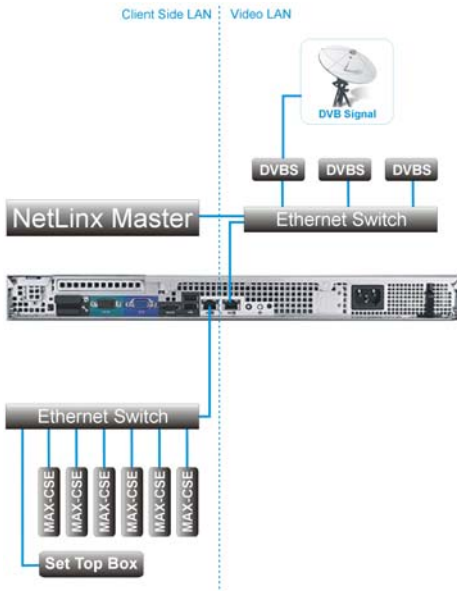
FIG. 5 displays a sample system configuration for Vision^2 TDS.

FIG. 5 VISION^2 TDS SAMPLE CONFIGURATION

Starting and Accessing Vision^2

Perform these steps to start and access Vision^2:

1. Power on the DVB appliance. It may take a few minutes to boot.
2. Test that the server can be accessed via the LAN. This test may be run by accessing a Command Prompt using the Ping command. For example:

   ```
   ping v2AMX-SVCTAG
   ```
   If the server responds, continue to step 3.
3. Using a web browser on a PC with network access, navigate to *http://<servername>/admin.aspx*. The V2ServicesManager appears.

Adding a Server

If using the V2-TDS kit, it must be added to the Master Server configuration. To add new servers, ensure that the new server is powered and configured with Vision^2 Server running. Before trying to add the new server to the Vision^2 system, ensure that the server can be accessed via the LAN. Perform these steps to add a server to your configuration:

1. Test access to the server via the LAN by accessing a Command Prompt using the Ping command. For example:

   ```
   ping V2AMX-SVCTAG
   ```
   If the server responds, then continue.
2. Click **Server Management** on the Master R710 Vision^2 ServicesManager web interface.
3. Click **Manage Servers**. The Manage Servers page appears.
4. Click **Add new Server** to open a text box.
5. Enter the name of the new server in the space provided.
6. Click **Apply**. The New server appears in the Manage Servers pane.
7. To confirm the new server into the Master server configuration so it can be managed, select **Import Server**. The services from the new server are now added to the Master server's main services menu. You can now control this server via the Main Master server.

The new server has successfully been added. On the remote server, the Master Server Namemust be changed in the Vision^2 application to the Master Server. Next restart the application.

Note: If an incorrect server name is entered the system will attempt the connection for 30 seconds and then if unsuccessful the following error message will appear. Click OK, and click Add New Server again.

Adding and Activating Services

After successfully adding a server, you must activate the available services for it with an appropriate license key.

1. Click **Manage** *<name of server>* in the services list on the left side of the page to display the available services for the server.
2. Enter a valid license code in the New Service License Code field.
3. Click **Check License Code**. If the code is valid, the License Changes area displays the number of licenses available for each type of service.
4. Click **Apply updated License** to apply the license code and create the requested services. The new services populate the Current Status of Services list at the top of the page.
5. Select an inactive service from the Current Status of Services list. Inactive services appear highlighted in green in the list and have a value of False in the Activated column.
6. Click **Activate Service** so you can manage the service.
7. Repeat steps 5 and 6 to activate any remaining inactive services.

DVB Service

The Vision^2 DVB Service provides and manages a single DVB multiplex of live TV channels to the system. The DVB service de-multiplexes the individual TV channels from the stream provided by the digital TV transmitters and makes each individual channel available for multicasting to users.

Scanning for Available Channels

Perform these steps to scan for available channels on all frequencies:

1. Select **Configure DVB** from the DVB Service Menu on the left pane of the window. The Configure DVB Service page appears.
2. Select the tuner to use from the *Tuner Hardware* options menu, and click **Apply**.
3. Enter the IP address to scan in the **Address** field. This IP address should be the multicast address of the applicable transmitter.
4. Enter the port to scan in the **Port** field.
5. Click **Start**. Vision^2 begins to scan for available channels. Any channels it finds appear in the channels section at the bottom of the page.

Setting the Multicast Address

Perform these steps to set the multicast address:

1. Select **Configure DVB** from the DVB Service Menu on the left pane of the window. The Configure DVB Service page appears.
2. In the Multicast section, use the **Network interface** options menu to indicate which network interface to use for multicasting.
3. Enter the base multicast address in the **Base Multicast Address** field. All channels selected to multicast are offsets from this address.
4. Enter the port for this channel in the **Port** field.
5. Enter a value for the multicast TTL for this channel in the **TTL** field. This step is optional.
6. In the Channels area, click the check box in the Multicast column for the channel you want to multicast. This step changes the multicast value of the channel from false to true. A confirmation pop-up appears. Click **OK** to accept this change. Repeat this step for each channel you want to multicast.
7. Click **Apply**.

Live (MPEG) Service

The Vision^2 Live (MPEG) Service provides a single live video channel to the system. The Live MPEG service uses an AMX MAX-CSE encoder to provide the hardware encoding of video and audio signals into an MPEG-2 multicast stream.

Configuring the MAX-CSE Encoder

Perform these steps to configure the MAX-CSE encoder:

1. Select **Configure MAX CSE Encoder** from the MAX Encoder Menu. The V2 Live Service page opens.
2. Enter the network IP Address of the encoder in the **Encoder IP Address** field. You can find the IP address on the LED on the front of the encoder.
3. Enter the username and password. The default values are Username: admin, Password: 1988.
4. Select the appropriate settings for the options in the Encoding area. Click **Apply** when finished.
5. Click the **Enable** check box to start the encoder and begin the multicast stream.

Consult the *Vision^2 Operation/Reference Guide* for more information on using the Vision^2 interface.