iPump 562
Digital Media Server
Quick Start Guide

WEGENER ®

General Information

The **WEGENER iPump 562** is a digital media server capable of decoding satellite signals or IP streams or playing stored content from its internal hard disk drive. It supports DVB S2 QPSK and 8PSK modulation formats. It provides MPEG-4 AVC (ITU-T H.264) HD and SD decoding and delivers brilliant wide screen pictures with as little as 6 Mb/s of data. It accepts media files and play-lists delivered using Assured File Delivery via **Compel**. Additional information can be found on the **WEGENER** web site at: www.wegener.com.

Unpacking and Inspection

The box containing the unit should include:

- **iPump 562** Media Server
- Two rack mounting brackets
- Inline power supply and power cord

- Quick Start Guide
- Safety Instructions
- Optional Remote Control with two AA batteries and operating instructions

Carefully unpack the unit and the ac power cord and inspect for obvious signs of physical damage that might have occurred during shipment. Any damage claims must be reported to the carrier immediately. Be sure to check the package contents carefully for important documents and materials.

NOTE: Save the original packing materials and shipping containers in case the unit must be returned for repair. Packing the unit in another container in such a way that the unit is damaged will void the warranty.

Environmental Operating Conditions and Physical Specifications

Item/Limit	Specification
Use	Indoor
Altitude	Up to 3048 meters
Temperature Range	10° C to 40° C
Relative Humidity (max.)	80% for temperatures up to 31° C decreasing linearly to 50% relative humidity at 40° C
Weight	7.5 pounds or 3.4019 kilograms
Dimensions (H x W x D)	1RU (1.75"x 16.5"x 11.5" or 44.45 mm x 419.1 mm x 292.1 mm)
Input Power Rating for iPump 562	12VDC 5.0A
Input Power Rating for inline power supply	100-240VAC, 50/60Hz, 1.5A

Installation

The **iPump 562** may be mounted in a standard 19-inch equipment rack or set up for desktop operation. In either location, maintain a clean, dry environment for the **iPump 562**.

Rack Mounting

The iPump 562 unit should be installed in such a way that a half-inch clearance is allowed on each side and a one inch on the top and bottom to ensure adequate air flow. Ensure that a hazardous condition is not produced by uneven loading, or by resting any unsupported equipment on a rack-mounted unit.

Parts for the iPump 562 unit include 2 rack mounting brackets. For rack mounting, install the rack mount brackets as follows:
1. Remove the 2 screws from the left and right sides of the unit.
2. Insert the brackets into the left and right sides of the unit ensuring that the screw holes for the unit and brackets are aligned.
3. Secure the brackets by re-inserting the screws through the brackets and unit.
4. Install the unit onto the rack.

NOTE: The front brackets must be secured to the rack. If the front brackets are left unsecured, the unit may shift forward and fall from the rack, and may result in personal injury and/or damage to the equipment. The internal temperature of the rack should not exceed 40° C.

Desktop Installation

1. Place the unit on a flat surface where it will not be subject to spills, impacts, or excessive heat.
2. Route cables to the unit so that they will not be hit or pulled, causing damage to the connectors or to the unit itself. Ensure a sufficient flow of cool air so that the unit's operating ambient temperature range is not exceeded.

> **WARNING: FCC-Mandated Suppression of Radio Frequency Emissions**
>
> This is a **Class A** product. In a domestic environment this product may cause radio interference for which the user may need to take mitigating action.
>
> If the Ethernet port has a cable connected to it, that cable must be properly shielded and grounded to minimize RF emissions that could interfere with nearby equipment.

Circuit Protection and Earthing

When connecting the iPump 562 to the power supply, review the ratings of all equipment in the circuit to ensure that the branch circuit, as well as the power source, will not be overloaded. Also make sure that the unit is properly grounded and/or that a protected power strip is used to attach it to the power supply.

Rear Panel Connections

iPump 562 rear panel view
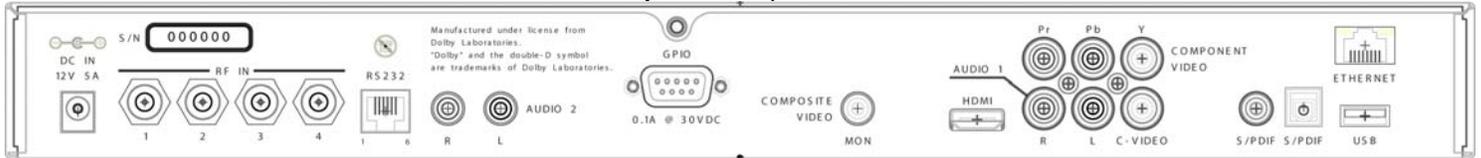
iPump 562 Rear Panel Connections

Signal	Connector	Description
DC IN	Male Power Jack	+12 VDC @ 5A
RF IN - Port 1	Type F	950 to 2150 MHz signal accepted. LNB power and Universal/Astra signaling available
RF IN - Port 2, 3, 4	Type F	(Optional) 950 to 2150 MHz signal accepted.
RS232 Port	RJ-12	Serial Asynchronous Data. May be used for terminal or printer
Audio OUT 2 (L/R)	2 RCA Phono Jacks	Audio (stereo or mono L/R assignable)
GPIO	DB-9	Two Relays rated at 0.1A @ 30 V DC and one GPIO input for cued file play.
Composite Video	RCA Phono Jack	Composite Video NTSC or PAL
C-Video	RCA Phono Jack	Composite Video NTSC or PAL
Component Video	3 RCA Phono Jacks	Component SD/HD Video YPbPr
Audio OUT 1 (L/R	2 RCA Phono Jacks	Audio (stereo or mono L/R assignable)
HDMI	Type A receptacle	High Definition Multimedia Interface (Digital A/V)
S/PDIF	RCA Phono Jack	S/PDIF Coax Digital Audio
S/PDIF	Optical TosLink	S/PDIF Optical Digital Audio
Ethernet	RJ-45	Ethernet 10/100 BaseT

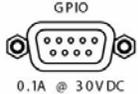| USB	USB	USB 2.0

Connector Pinouts

The tables below describe pinout connections for the RJ-12 and DB-9 connector.

Serial Port RS-232 Pinouts

Image	Pin Input	Output Description	Pin Input	Output Description
RS232	1	No Connection	4	No Connection
	2	TX Data Output	5	Ground
	3	RX Data Input	6	+5V DC

GPIO Pinouts

Image	Pin Input	Output Description	Pin Input	Output Description
GPIO 0.1A @ 30VDC	1	Alarm relay Common	6	Alarm relay Normally Closed
	2	Alarm relay Normally Open	7	User relay Normally Closed
	3	User relay Common	8	User relay Normally Open
	4	No Connection	9	Ground
	5	GPIO Input		

CAUTION: Do not connect RJ-12 directly to phone line. Equipment damage may result.

Front Panel Controls and Indicators

The iPump562 can be controlled via Compel network control, local terminal, and On-Screen-Display. Normally, Compel is the primary method of controlling the iPump562.

iPump 562 Front Panel
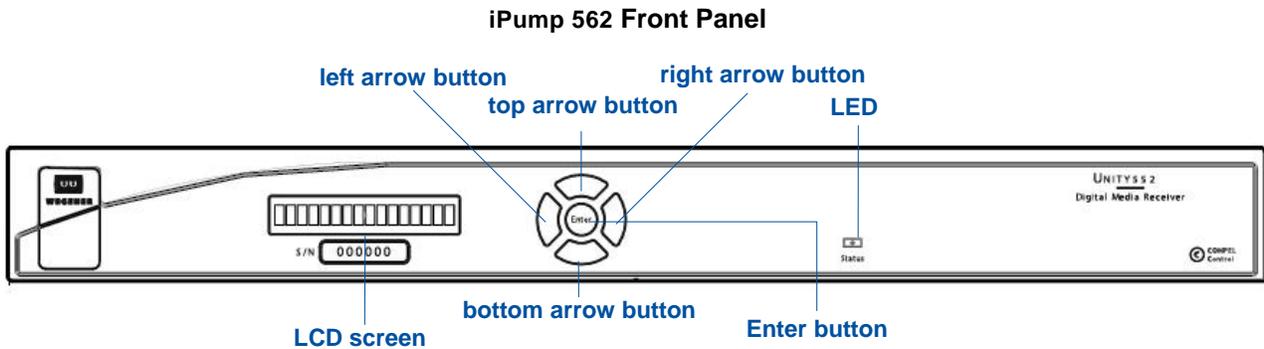
iPump 562 Front Panel Controls

Item	Description
LCD	Displays unit label and current status unless OSD activated, in which case it displays the active OSD line.
Arrow buttons	Arrow buttons activate OSD and navigate through the menus.
ENTER	Selects next menu level or item selected on OSD.
LED	Indicates status: green for OK, flashing red for alarm, flashing amber for warning.

LED Indications

The iPump562 supplies an operational status using the LED. A steady **Green** LED indicates that there are no warning or alarm conditions. The LED will flash when receiving commands from Compel or when downloading files.

If there is a problem, the LED flashes **Red** for alarm conditions or **Amber** for warning conditions. In general, alarms indicate that the unit cannot produce output, while Warnings indicate that, although output is being produced, there is a problem that could require attention.

iPump 562 Front Panel Status LED Alarm and Warning Indications

Mode	LED Status	Condition
Alarm	Red blink = 2	No carrier
	Red blink = 4	In recovery
	Red blink = 5	Eb/No alarm
	Red blink = 11	Not authorized

	Amber blink = 2	Marginal Eb/No
Warning	Amber blink = 5	RF too low
	Amber blink = 6	RF too high
	Amber blink = 7	Application download failed
Normal	Green	Normal operation

LCD Menu Navigation

Operate the iPump 562 from the front panel using the arrow buttons and the LCD as shown above. The LCD single line display will display the current OSD line. The up/down arrows will navigate from line to line. The left/right arrows will navigate through fields.

OSD (On-Screen Display)

You may control or monitor the unit using the OSD and front-panel buttons. With a video monitor attached to the iPump 562 through any of the video output ports of the unit, press any button to activate the OSD. You may use the push buttons to navigate through the menus displayed to view the existing settings.

OSD Menus

The **OSD** information displays white text on a blue background overlying 80% of the video output from the iPump 562 server. View the **OSD** from a monitor connected to any of the video output ports of the iPump 562 server.

Navigating OSD Menus

Use the arrow and Enter buttons on the iPump 562's front panel to navigate and edit the fields on the **OSD** menus.

iPump 562 Types of OSD Action Fields

Button	Actions		
	Main Menu	**Submenu**	**Edit Mode**
Enter	selects submenu or dropdown list	goes to editable field	accepts changes
right arrow	no action	no action	moves cursor to right
left arrow	exits **OSD**	goes to previous menu level	moves cursor to left or abandon changes
up arrow	goes to next or previous menu item	goes to next or previous menu item	increases value of highlighted item
down arrow	goes to next or previous menu item	goes to next or previous menu item	decreases value of highlighted item

Main Menu

The main menu displays the unit serial number and currently tuned RF carrier settings at the top.
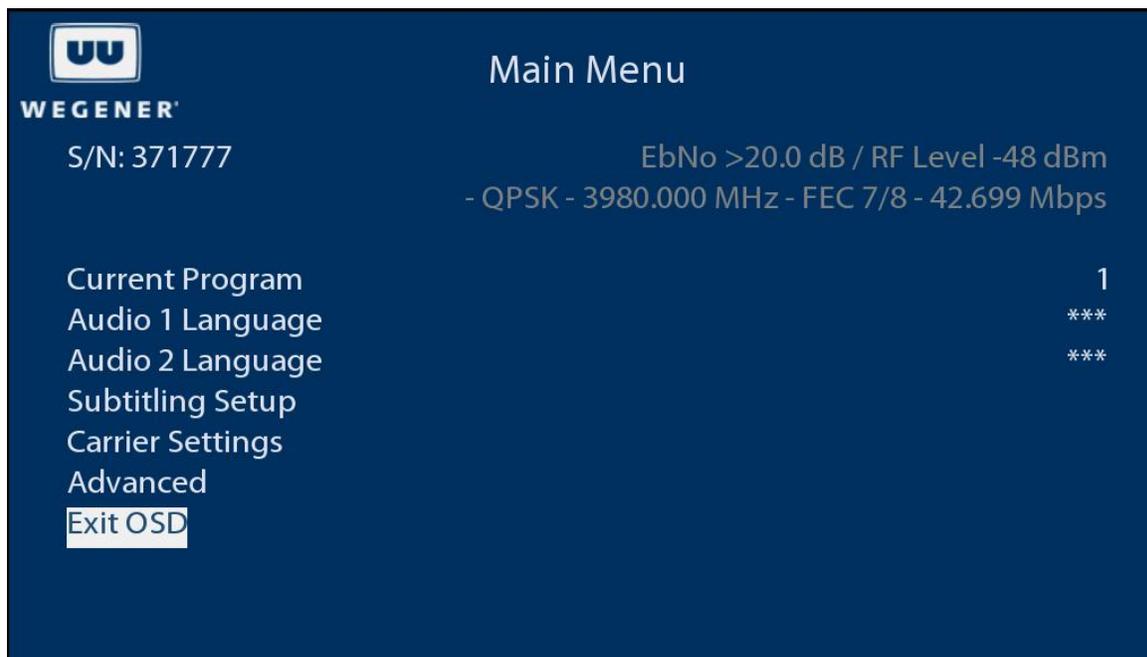
Current Program

Displays the current program number or descriptor. It may be changed by scrolling through the list of available programs, using the up/down keys. If the unit is currently decoding a LAN/Ethernet stream, the IP and port of the stream is displayed here.

Audio 1 Language

Displays the current audio program descriptor or "***", which means the first available audio, for the Audio 1 output. It may be changed by scrolling through the list of available audio's, using the up/down keys. If the unit is currently decoding a LAN/Ethernet stream, this will not be in the menu and the unit will decode the first audio in the stream.

Audio 2 Language

Displays the current audio program descriptor or "***", which means the first available audio, for the Audio 2 output. It may be changed by scrolling through the list of available audio's, using the up/down keys. If the unit is currently decoding a LAN/Ethernet stream, this will not be in the menu and the unit will decode the first audio in the stream.

Subtitling Setup

Navigates to the subtitling setup menu which allows enabling/disabling of subtitling and selection of the subtitling language. Subtitling may be enabled only if closed captioning is in the Passthru mode.

Carrier Settings

Navigates to the carrier settings menu, which allows viewing/changing the tuned RF carrier settings, LNB parameters, signal quality alarm settings and a signal strength meter.

Advanced

Navigates to the advanced menu, which allows more detailed monitor and control functions, such as viewing software versions, decoder setup, and audio setup.

Exit OSD

Exits the OSD. This may also be done by the left arrow key. The OSD will time out and exit in 1 minute if no action is taken.

Carrier Settings

The carrier settings menu allows viewing/changing the tuned RF carrier settings, LNB parameters, signal quality alarm settings and a signal strength meter.
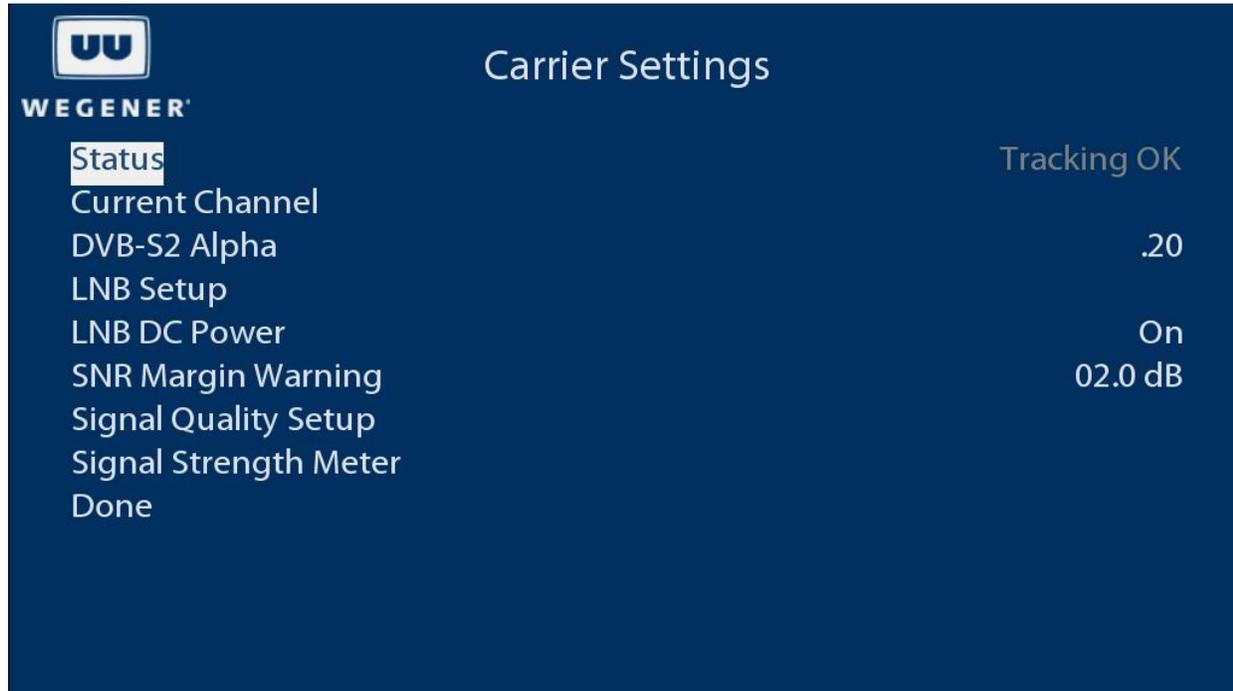
Current Channel

Allows editing of RF tuning parameters, frequency, data rate, FEC rate, program number, etc.

DVB-S2 Alpha

Adjusts receiver RF filter characteristics. Options are .20, .25, and .35.

LNB Setup

Allows editing of LNB type and frequency.

LNB Power

Allows enabling or disabling of LNB power insertion on RF port 1.

SNR Margin Warning

The receiver will display a warning when the signal to noise ratio (or Eb/No) reaches this many dB above the alarm level. The alarm level is based on the modulation format and FEC rate.

Signal Quality Setup

Allows editing of the number of errored seconds per minute at which to display an alarm.

Signal Strength Meter

Displays a meter showing signal strength and Eb/No to aid in antenna peaking.

Decoder Setup

The Decoder Setup menu is accessed by selecting Advanced in the Main Menu, followed by Unit Setup. It allows the user to adjust the video output of the unit.

OSD Decoder Setup Menu
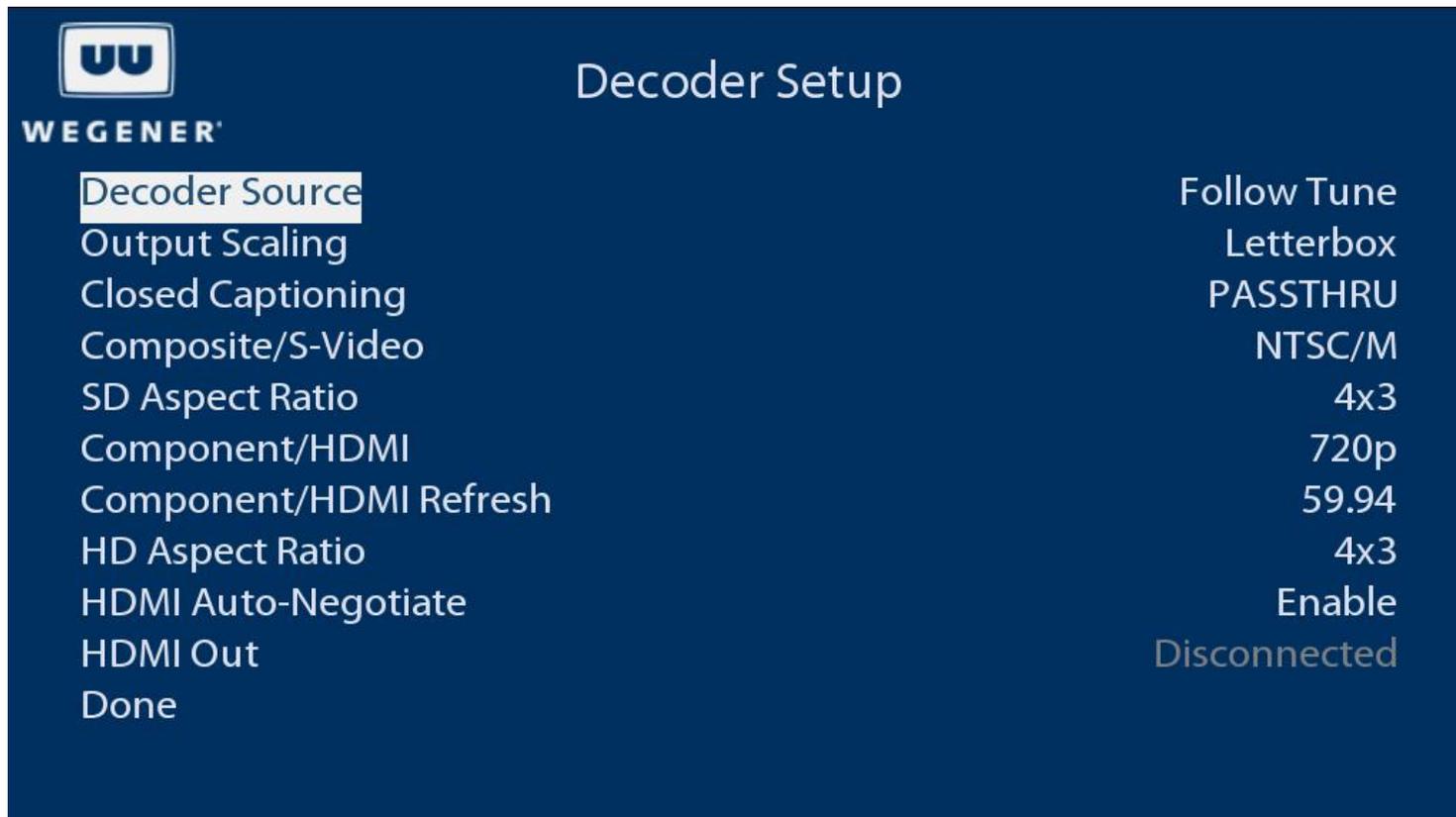
Decoder Source

Selects the source of input for the A/V decoder. The Follow Tune indicates that current source is the selected RF carrier and program number.

Output Scaling

Selects Letterbox or Pan and Scan mode.

Closed Captioning

Selects closed captioning mode. PASSTHRU Mode allows the TV to decode and display closed captioning. Alternatively, the unit can decode and render closed captioning if the mode is set to CC1-4. CC1-4 may be selected only if subtitling is disabled.

Composite/S-Video

Selects video output format for the composite video outputs and S-video output (if available).

SD Aspect Ratio

Selects the aspect ratio for the composite video outputs and S-video output (if available).

Component/HDMI

Selects video output resolution of the component and HDMI outputs when HDMI Auto-Negotiate is disabled or HDMI output is not connected.

Component/HDMI Refresh

Selects the video vertical refresh rate of the component and HDMI outputs when HDMI Auto-Negotiate is disabled or HDMI output is not connected.

HD Aspect Ratio

Selects the aspect ratio of the component and HDMI outputs.

HDMI Auto-Negotiate

When enabled, the output resolution and refresh rate of the component and HDMI outputs are set per the DDC data received from the TV.

HDMI Out

Displays current mode/resolution of the component and HDMI outputs.

Web Interface

The web interface allows users to view the status and logs of the unit, as well as download assets from the unit. It is designed to perform best with Mozilla FireFox web browser.

Status view

The status view displays the current status of the unit, including the serial number, software versions installed, decoder status, Compel statistics, RF signal information, and file download status.

The green LED icon will indicate the state of the LED on the unit and clicking this will show any warnings or alarms, if present.

File Manager view

The file manager view allows the user to view the assets currently on the unit. Assets are user provided video, audio, image, or text files downloaded via Compel.

Click the assets folder to view the list of assets. Assets may be viewed, played or downloaded by clicking on the file name.

Logs view

The logs view allows the user to view the "as run" log or the "operational" log.

The "as run" log lists all assets that have been played by the unit.

The "operational" log lists any changes in RF signal tuning.

Diagnostics interface

By holding down the control key on the keyboard and clicking the Wegener logo in the top left corner, a diagnostics interface may be accessed.

From this interface, in addition to many other actions, the user can play a file or playlist of files from the hard disk drive.

Play file

To play a file, in the terminal command box, type "playfile 1 filename". The filename must include the path, which should always begin with "/assets" and the file extension, which should always be ".ts". Files are MPEG2 transport stream files. For example, "playfile 1 /assets/myasset/myfile.ts" will play myfile.ts, located in the myasset folder under the assets folder. Files are considered a temporary insert, that is they play one time and then the iPump562 will return to the previous source.

Play list

A playlist is an .xml file that contains a list of files to play. Playlists are transferred to the iPump562 via Compel.
To play a playlist, in the terminal command box, type "playlist play 1 listname 1". The listname will be the name only. The path for playlists is fixed and no extension is included. The last "1" in the command means loop the playlist repeatedly, if the "1" is omitted or a "0" is typed, the playlist will play only once.
For example: "playlist play 1 mylist 1" will play mylist repeatedly. "playlist play 1 mylist" will play mylist once.
To stop a playlist that is playing repeatedly, change the decoder source:
"decoff 1" will turn off the decoder and there will be no video/audio output.
"decfollowtune 1" will change to the satellite/RF input.
"decodelanip 1 224.1.1.101 8208" will change to the LAN/Ethernet multicast on IP address 224.1.1.101, port 8208.

Triggered playback

A file or playlist may be played in response to a trigger signal applied to the GPIO input line, pin 5 on the GPIO connector. The trigger signal is sent by connecting pin 5 to ground (pin 9) for at least 100mS. The GPIO line should be disconnected from ground after the trigger. This is normally done with a momentary switch.

The file or playlist must be queued up for playback before the trigger is applied.
To queue up a file for triggered playback, from the diagnostics interface, enter the following into the terminal command box:
"playfile 1 /assets/myasset/myfile.ts L"
To queue up a playlist for triggered playback, from the diagnostics interface, enter the following into the terminal command box:
"playlist play 1 mylist 0 L" for one time playback upon trigger.
"playlist play 1 mylist 1 L" for repeated playback upon trigger.

When the iPump562 receives the signal for triggered playback, it will first delay for the amount of time set in the "gpidelay" variable, which defaults to 0 (no delay). This value may be viewed by typing "gpidelay" into the terminal command box. And it may set by including a value (in mS).
For example: "gpidelay 5000" will set the delay for 5 seconds.
This delay may be necessary to achieve a reliable, precise playback point in time. This is because it may take some small amount of time to load and start the decoder, especially in the case of a playlist which has multiple files listed. It is recommended that 5 seconds delay (5000) be used for triggering a playlist of 4 files. If more than 4 files are in the list, the delay value may need to be increased.

Internet Mode

Placing a unit in internet mode means that the unit will not attempt to tune and will ignore tuner alarms.
To place the unit in internet mode issue the following commands:
"carrierreq 0"
"srchman tunerignore 1"
"reset"

To revert to normal RF operation issue the commands:
"carrierreq 1"
"srchman tunerignore 0"
"reset"

Compel Method

CAUTION: Changing the method of Compel control should be done with care as it could result in a loss of control if not set correctly. It is recommended to issue the specific method setup commands mentioned below before issuing the "compel method" command.

The unit may be controlled via the Compel control system using one of three connection methods, dvbpid, mcast, or http. The method is set by issuing one of the following commands:

"compel method dvbpid" - This is the default control method. Compel will control the unit by sending commands in the MPEG transport stream on the the tuned RF carrier. With this method, the PID of the Compel commands must be set in the unit by issuing the command: "compel pid 1026". The PID number (1026) is expressed in hexadecimal. This setting must match the setting in the Compel control system.

"compel method mcast" -   Compel will control the unit by sending commands in a multicast IP transmission. The multicast IP address and port must be set by issuing the following command: "compel mcsetup [address] [port]", where [address] is the multicast IP address and [port] is the multicast port number. When using this method, Compel will also deliver assets over a multicast IP transmission and the multicast address and port for asset delivery must also be set by issuing the following command: "afd mcsetup [address] [port]" , where [address] is the multicast IP address and [port] is the multicast port number.

"compel method http" -   Compel will hold all commands in a database until retrieved by the unit over IP. With this method, a server IP address must be set in the unit that matches the Compel IP address. This is done with the command: cmplint srvraddr [address] , where [address] is the Compel IP address. Assets will also be retrieved via this server address.

Warranty

The following warranty applies to all **WEGENER** products:

All **WEGENER** products are warranted against defective materials and workmanship for a period of one year after shipment to customer. **Wegener Communications** ' obligation under this warranty is limited to rep airing or , at W egener Communications' option, replacing p arts, subassemblies, or entire assemblies. **Wegener Communications** shall not be liable for any special, indirect, or consequential damages. This warranty does not cover p arts or equipment, which have been subject to misuse, negligence, or accident by the customer during use. All shipping cost s for warranty rep airs shall be prepaid by the customer. There are no other warranties, express or implied, except as st ated herein.

Technical Support

In the event that the unit fails to perform as described, contact **Wegener Communications** Customer Service at:
- Phone: (770) 814-4057
- Fax: (770) 232-0621
- E-mail: service@wegener.com

Corporate Office:	Service Department:
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