

Unity 552

Digital Media Receiver Installation Quick Start Guide



WEGENER®



General Information

The **WEGENER Unity 552** is a digital satellite receiver, compliant with DVB S2 modulation supporting QPSK and 8PSK formats. It provides MPEG-4 AVC (ITU-T H.264) HD and SD decoding delivering brilliant wide screen pictures with as little as 6Mbps of data. Additional information may be found on the **WEGENER** web site at: www.wegener.com.

Unpacking and Inspection

The box containing the unit should include:

- **Unity 552** Media Receiver
- Quick Start Guide
- Parts (4 rubber feet and 2 angle rack mount brackets)
- UL Safety Sheet
- Power cord
- Inline power supply

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

The table below lists the **Unity 552** Environmental Limits 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 Unity 552	12VDC 5.0A
Input Power Rating for inline power supply	100-240VAC, 50/60Hz, 1.5A

Location and Mounting

The **Unity 552** 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 **Unity 552**.

Rack Mounting

The **Unity 552** unit should be installed in such a way that a half-inch clearance is allowed on each side and a quarter-inch on the top 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 **Unity 552** unit.

Parts for the **Unity 552** unit include 2 angle rack mount brackets and 4 rubber feet. For rack mounting, install the angle rack mount brackets as following; however do **not** attach the rubber feet as they interfere with the rack mounting.

1. Remove the 2 screws from the left and right sides of the unit.
2. Insert the angle 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

Parts for the **Unity 552** unit include 2 angle rack mount brackets and 4 rubber feet. For desktop installation, attach the 4 rubber feet; however do not attach the rack mount brackets.

1. Attach the 4 rubber feet onto the indented areas at the bottom of the unit.
2. Place the unit on a flat surface where it will not be subject to spills or impacts.
3. 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.

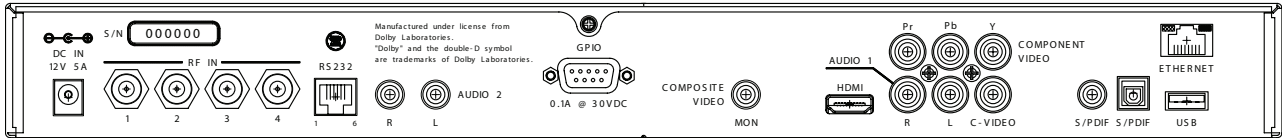
Circuit Protection and Earthing

When connecting the **Unity 552** unit 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

Figure 1 shows the rear panel connections of the Unity 552 that are described in Table 3.

Figure 1: Unity 552 rear panel view with HDMI port



RS232 Pinout Connections

Table 1 shows the pinout connections for the Serial Port RS-232 Phone Jack.

Table 1: Serial Port RS-232 Pinouts

Pin Input	Output Description	Pin Input	Output Description
1	No Connection	4	No Connection
2	Output RXDB Data	5	Ground
3	Input TXDB Data	6	+5V DC

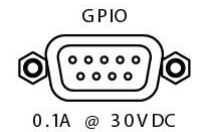


Pinout Connections

Table 2 shows the pinout connections for the DB-9 Female GPIO.

Table 2: DB-9 Female GPIO Pinouts

Pin Input	Output Description	Pin Input	Output Description
1	Alarm Common	6	Alarm Normally Closed
2	Alarm Normally Open	7	Contact Closure Normally Closed
3	Contact Closure Common	8	Contact Closure Normally Open
4	No Connection	9	Ground
5	Contact Closure GPIO Input (Factory Use Only)		



Interconnect Descriptions

Table 3 shows the rear panel connections of the Unity 552.

Table 3: Unity 552 Interconnect Descriptions

Signal	Connector	Description
DC IN	Male Power Jack	+12 VDC @ 5A
RF Switch IN - Port 1	F	950 to 2150 MHz signal accepted. LNB power available
RF Switch IN - Port 2, 3, 4	F	950 to 2150 MHz signal accepted. NO LNB power available
RS232 Port	RJ-12	Serial Asynchronous Data. May be used for terminal, printer, or auxiliary data
Audio OUT 2 (R & L)	2 RCA Phono Jacks	Audio stereo
GPIO	D-Type	Two Relays 01.A @ 30 V DC (GPIO for Factory Use Only)

Signal	Connector	Description
Composite Video	RCA Phono Jack	Composite Video Monitor NTSC or PAL at 1 Vp-p
C-Video	RCA Phono Jack	C-Video NTSC or PAL, Composite video at 1 Vp-p
Component Video	3 RCA Phono Jacks	Component SD/HD Video YPbPr
Audio OUT 1 (R&L)	2 RCA Phono Jacks	Audio Stereo
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 Fiber Digital Audio
ETHERNET	RJ-45	ETHERNET 10/100 BaseT
USB	USB	USB

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

Front Panel Connections

Figure 2 show the Unity 552 front panel controls and describes them in Table 4. The IRD can be controlled via Compel Network Control, local terminal, and On-Screen-Display push buttons. Normally, Compel is the primary method of controlling the IRD, while the other control methods are supplemental.

Figure 2: Unity 552 Front Panel

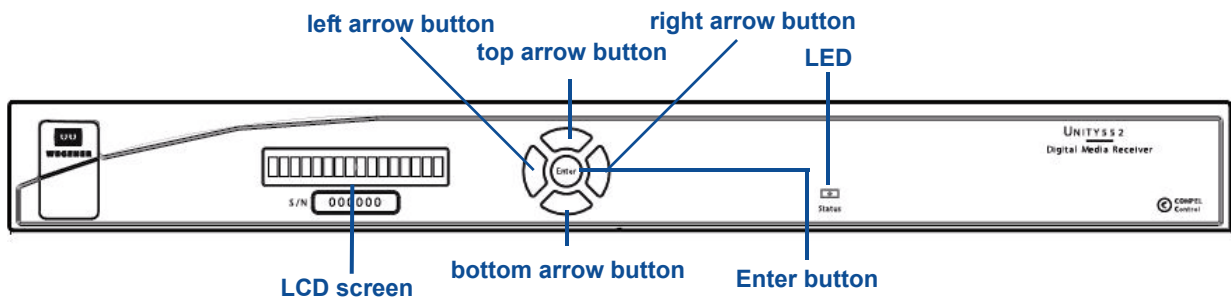


Table 4: Unity 552 Front Panel Controls

Item	Description
LCD	Activates automatically by certain status conditions, such as loss of signal. To manually activate, press the ENTER button.
Arrow buttons	Push buttons activates LCD and selects options displayed.
ENTER	Push button enters options selected on LCD.

LCD Menu Navigation

Operate the Unity 552 from the front panel using the arrow buttons and the LCD as shown in Figure 2. Menu screens on the LCD direct you to screens that control various operating functions including:

- programming
- audio

Front Panel Functions

Programming Setup

1. Use the right or left arrow buttons to navigate to **Prgm:Prog1**.
2. To edit, press **Enter**.
3. To navigate to **Prog2** or **Prog3**, use the top and bottom arrow buttons.
4. To change, press **Enter**.

Audio Setup

Use to setup **Audio 1** or **Audio 2** as indicated on the rear of the unit chassis.

1. Use the right or left arrow buttons to navigate to **Aud:A01** or **Aud:A02**
2. To edit, press **Enter**.
3. To change, press **Enter**.

Closed Captioning (CC) Setup

1. Use the right or left arrow buttons to navigate to **Sub:CC1**.
2. To edit, press **Enter**.
3. To navigate to **Sub:CC2** or **Sub:CC3** or **Sub:CC4**, use the top and bottom arrow buttons.
4. To change, press **Enter**.

LED Indications after Power-Up

Upon power up, the IRD initializes all system components and supplies an operational status. A steady **Green** LED indicates that it is locked on a carrier and is capable of producing output (Audio/Video/Data).

If there is some problem with the IRD or the signal it is receiving 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. The most common conditions that produce alarms or warnings are listed in **Table 5**.

Table 5: Unity 552 Front Panel Status LED Alarm and Warning Indications

Mode	LED Status	Condition
Alarm	Red blink = 2	No carrier
	Red blink = 3	No RF signal
	Red blink = 4	In recovery
	Red blink = 5	Eb/No alarm
	Red blink = 11	Not authorized
Warning	Amber blink = 1	No response from SEC_MICRO
	Amber blink = 2	Marginal Eb/No
	Amber blink = 4	Selected audio not available
	Amber blink = 5	RF too low
	Amber blink = 6	RF too high
	Amber blink = 7	Application download failed
Normal	Green	Normal operation

OSD (On-Screen Display)

Although the **Unity 552** is set up at the factory, you can customize its settings to fit your system using the **OSD** and front-panel buttons. With a monitor attached to the **Unity 552** through any of the video output ports of the IRD, you may use the push buttons to navigate through the menus displayed to view the existing settings, various status, and version fields.

Some of the functions you can perform using the **OSD** menus are:

- Tune to a Carrier
- Configure LNB
- Monitor Signal Quality
- Set Audio/Video Decoder Options
- Set Subtitling
- Set Relays
- Set Networking options
- View Version Information

OSD Setup

The **OSD** information displays white text on a blue background overlying 80% of the video output from the **Unity 552** receiver. View the **OSD** from a monitor connected to any of the video output ports of the **Unity 552** receiver.

NOTE: From the front panel, press any key to activate the **OSD**.

OSD Menus

All menus are white text with a blue background. Highlighted items display as black text on a white background. **Figure 3** is a representation of the **OSD Main Menu**.

Figure 3: OSD Main Menu



Navigating OSD Menus

Use the arrow and **Enter** buttons on the **Unity 552**'s front panel to navigate and edit the fields on the **OSD** menus. **Selectable fields** allow you to change the whole parameter from pre-determined options. **Editable fields** allow you to change each digit of the parameter.

NOTE: Once a field is updated, you must select **Activate and Exit** on the submenu and then press **Enter** to update the value of the field. Before pressing **Enter**, you may go back to any field and correct it prior to acceptance.

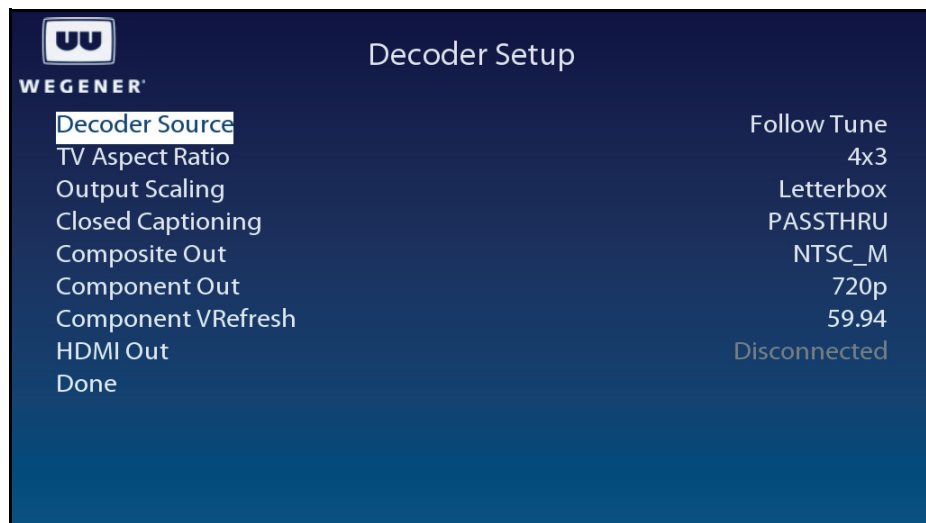
Table 6: Unity 552 Types of OSD Action Fields

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

Decoder Setup

The Decoder Setup menu is available from the OSD Advanced Setup in the Main Menu, followed by Unit Setup. See Figure 4: OSD Decoder Setup Menu below.

Figure 4: OSD Decoder Setup Menu



The following options for decoding the output are available:

Decoder Source

Controls source of input for the primary A/V decoder. The Follow Tune indicates that currently transport stream is playing from the selected RF source and program number. The source can be changed to Multicast UDP from Satellite/RF or Multi/Unicast UDP from LAN/ETHERNET port. The source can be turned off to produce no video/audio output.

TV Aspect Ratio

Allows the receiver to automatically correct a mismatch in the aspect ratio of TV to the content being displayed. Available values are 4x3 (Traditional TV), 16x9 (Widescreen TV) and 14x9 (CiniView II).

Output Scaling

Controls the behavior aspect ratio if the content does not match the TV Aspect Ratio. In Letterbox mode, black bars are displayed either at the top/bottom or at the sides for better viewing quality. The Pan/Scan mode is also available. Improvement in viewing experience depends on the source contents.

Closed Captioning

PASSTHRU Mode allows the TV to display subtitling information according to NTSC/PAL standards. Alternatively, the receiver can render subtitling information if the mode is set to either CC1:4 (EIA-608), DTV (EIA-708-B), or Divicom.

Composite Out

Selects video output format either for NTSC_M, NTSC_J, PAL/50 or PAL/60.

Component Out

Selects video output format either for 480i/p, 576i/p, 720p or 1080i. When a DVI/HDMI device is connected, the mode shall be automatically set to Slave.

Component VRefresh

Configures the video/vertical refresh rate either to 50, 60 or 59.94 frames per second.

HDMI Out

Displays current display mode of the DVI/HDMI device after negotiation.

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 repairing or, at Wegener Communications' option, replacing parts, subassemblies, or entire assemblies. Wegener Communications shall not be liable for any special, indirect, or consequential damages. This warranty does not cover parts or equipment, which have been subject to misuse, negligence, or accident by the customer during use. All shipping costs for warranty repairs shall be prepaid by the customer. There are no other warranties, express or implied, except as stated 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: (678) 624-0294
- E-mail: service@wegener.com

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