

UNITY 4650

BROADCAST MEDIA RECEIVER



Unity 4650 APPLICATIONS

Broadcast TV

- Linear TV Distribution

OPTIONS

- Turbo QPSK/8PSK/16QAM Receiver Card
- 4-Port Switch
- ASI Input
- SDI and Genlock
- Digital Outputs
- 14-Relay Expansion Card
- International Power

BROADCAST MEDIA RECEIVER

WEGENER supports high quality, live broadcast television networks. The Unity 4650 Broadcast Media Receiver is a standards-based satellite receiver with integrated advanced network control for robust centralized operations. This receiver includes a DVB compliant QPSK demodulator with a wide symbol rate range enabling both SCPC and MCPC operation. It supports MPEG 4:2:0 and 4:2:2 video decoding.

CUSTOM CONFIGURATIONS

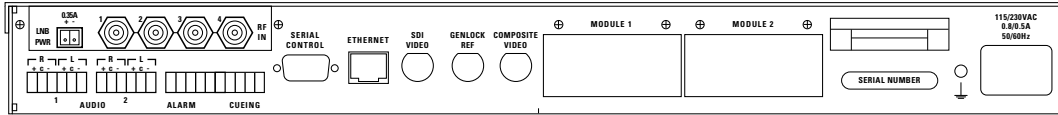
Unity option cards allow the Unity 4650 to expand its feature set. The Unity 4650 can optionally be equipped with a Turbo QPSK / 8PSK / 16QAM demod, SDI video with 2 channels of embedded audio, and genlock. The Unity DVB-ASI input card provides easy interface to terrestrial networks. The Unity relay card puts 14 remote controllable relay contacts at your command.

THE UNITY ADVANTAGE - CONTROL

COMPEL[®] network control system puts every WEGENER receiver and uplink feed under a central network operator's control. It gives you the power to manage a mixed network of Unity 4650 and other WEGENER IRDs with unparalleled functionality. Use Compel to issue commands that are accurately synchronized with video and multi-language audio programming. Optimize bandwidth utilization with scheduled commands that regionalize programming and commercials. Command individual or groups of receivers to output video, audio, data, or switch/ tune to specific satellite transponders for field-proven disaster recovery.

UNITY 4650 - BROADCAST MEDIA RECEIVER

THE UNITY 4650 REAR PANEL



TECHNICAL SPECIFICATIONS

RF CHARACTERISTICS - Standard Demod

Input Frequency	Tuning via Front Panel Control or COMPEL
Input Frequency Range	950 to 2150 MHz
RF Ports	Four F Connector Inputs
Carrier Lock Range	+/-3.0 MHz
Input Level Range	-25 dBm to -65 dBm
Input Impedance	75 Ohms
LNB Power	18 VDC @350 mA max.
Universal LNB Control	13/18V Polarity Switching plus 22 kHz LO Control
Tuning Resolution	1KHz
Modulation	DVB-QPSK
Symbol Rate Range	2 -30 Msps
FEC Coding (DVB)	1/2, 2/3, 3/4, 5/6, 7/8

VIDEO SYSTEM CHARACTERISTICS

Video Data Rate	Up to 50 Mbps
Compression Type	MPEG-2
Chroma Format	4:2:2 or 4:2:0
Resolution: Horizontal	720, 704, 640, 544, 480, 352
Resolution: Vertical	512* 480, 240 lines (NTSC) 608* 576, 288 lines (PAL) *4:4:2 sampling only
Aspect Ratios Output	4:3 (auto or forced) & 16:9
VBI Data	All lines if using external window (4:2:2 format); Otherwise, re-inserts CC/XDS from ATSC, Harmonic or Tandberg protocols

VIDEO OUTPUT CHARACTERISTICS

Video Format	NTSC/PAL(B,G,H,I) Composite
Output Level	1.0 Vp-p +/- 2%
Output Connector	75 Ohms/ BNC jack
Frequency Response	NTSC 0.5 to 4.2 MHz +/- 0.3dB PAL-B 0.5 to 5.0 MHz +/- 0.3dB
Differential Gain	< 2 IRE
Differential Phase	< 0.7°
Line Time Distortion	< +/- 0.5 IRE p-p
Field Time Distortion	< +/- 3 IRE p-p
Video SNR Weighted	> 67 dB

DATA OUTPUTS

Async serial data	Serial port, to 38.4kbaud
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RELAY CHARACTERISTICS

Alarm Relay Form C	
COMPEL Controlled Relays (2) Form C	

UNIT CONTROL

WEGENER COMPEL Control	
Terminal control at serial port	
Front-panel LCD and keypad	
Telnet terminal control over TCP/IP Ethernet	

AUDIO OUTPUT CHARACTERISTICS

Compression Type	MPEG-2 Layer II
Output Modes Supported	Mono, Dual Mono, Joint Stereo
Data Rate	Up to 384 Kbps ES rate MPEG,
Uncompressed Mode	Linear PCM per SMPTE 302
Frequency Response	20Hz to 20KHz +0.5 / -1.5 dB
Output Level @ max PPL	+24 or +18 dBm (factory select), variable
Load Impedence	600 Ohms
Harmonic Distortion	< 0.5%
S/N Ratio	>80 dB unweighted
Audio Ports	2 independent stereo pairs
Connectors	Quick Disconnect Screw Terminals
Audio Monitor	Front Panel 1/4" headphone jack
AES/EBU Digital Audio	Embedded with SDI video (optional)

CONDITIONAL ACCESS OPTIONS

- WCI Compel CA
- PIN Scrambling

OTHER OPTIONS

- Dual Selectable ASI Inputs (in place of Rx card)
- Digital Output option (see next section)
- Turbo-QPSK/8PSK/16QAM receiver card
- 14-relay expansion card

DIGITAL OUTPUT OPTION

Serial Digital Video	Component 270 Mbps Per SMPTE259
Digital Audio	Two stereo-pairs of AES3 audio embedded in SDI
Genlock	Color, horizontal & vertical sync User-adjustable color/horiz offset

POWER AND MECHANICAL CHARACTERISTICS

Power	Universal 90-260 VAC, 50/60 Hz 30 watts typ load (w/ LNB DC)
Package	1 RU rack mount
Operating Temperature	10° to 50° C

AGENCY APPROVALS

FCC Class A, UL, CE

www.wegener.com/PRODUCTS/index.php

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