

# DEMODULATORS

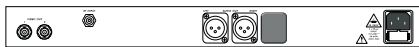


For more than two decades, the Videotek family of demodulators has provided the highest performance at the best value in the industry. By offering the greatest selection of demodulators, with the widest range of features, Videotek has become the largest supplier of agile demodulators in North America. All models provide video and BTSC stereo signal demodulation for Broadcast, CATV and closed circuit monitoring applications. From basic receiving and monitoring applications to full FCC proof of performance testing, Videotek offers an agile demodulator that will fit your needs and your budget.

## Features

- Multi-band tuning (VHF/UHF/Cable)
- HRC/IRC tuning capability
- Random access, search or up/down channel selection
- Front panel Cable/Antenna selection
- Frequency synthesized channel selection
- Front panel audio presence indicators
- Synchronous detection
- Envelope and synchronous detection on DM-192
- Up to 4 MHz bandwidth for FCC testing
- Audio output configurations for every requirement
- Front panel LED channel display
- Controls for video gain, audio gain and balance on front panel
- Front panel memory retained for one week in event of power loss
- All models receive and process PAL-M
- Standards available: NTSC and PAL-M

## DM-141A



The most affordable model in our family, the DM-141A receives "off-air" or CATV signals, processes these signals and provides two buffered composite baseband video outputs. Additionally the DM-141A provides balanced stereo audio outputs which may be monitored via the front panel speaker. Ideal for uses where quality video and stereo audio reception is required. The DM-141A is used in headends, studios and remotes for monitoring and retransmission applications.

### Features

- 154 channel tuning (VHF/UHF/Cable)
- HRC/IRC tuning capability via wide range fine tuning
- Random access, search or up/down gain and channel selection
- Front panel Cable/Antenna selection
- Frequency synthesized channel selection
- Synchronous detection
- Stereo presence indicator
- Front panel LED channel display
- Controls for video gain, audio gain and balance on front panel
- Front panel memory retained for one week in event of power loss

## DM-154



The DM-154 demodulator is a high performance television tuner/demodulator which, in addition to being at home in basic broadcast, cable and closed circuit monitoring applications, can also be used for FCC compliance testing. It contains features beyond standard tuners, including forced mono mode, a Zero Carrier Pulse (chopper), 4.5 MHz aural carrier output, external IF loop and remote control via an RS-232 port. The DM-154 may be used in testing applications and in locations where computer control is required.

### Features

- All features of the DM-141A PLUS
- Full 4 MHz bandwidth video for compliance testing
- Quadrature output for ICPM measurements
- SAP presence indicator
- Front panel selection of Stereo, Mono or SAP outputs
- Zero Carrier Pulse control on front panel
- Remote control via an RS-232 port
- IF (45.75 MHz) loop enabled by an internal jumper
- Suitable for full FCC proof of performance testing

## DM-145



Like the DM-141A, the next model in the Videotek demodulator series, the DM-145, is perfect for broadcast and cable applications and adds the capability of providing both stereo audio and SAP (Second Audio Program) outputs. Second language programming, emergency alert, or radio simulcasting are a few of the applications that require full time SAP audio.

### Features

- 154 channel tuning (VHF/UHF/Cable)
- Simultaneous stereo and SAP audio outputs
- HRC/IRC tuning capability via wide range fine tuning
- Random access, search or up/down channel selection
- Front panel Cable/Antenna selection
- Frequency synthesized channel selection
- Synchronous detection
- SAP and Stereo presence indicators
- Front panel LED channel display
- Controls for video gain, audio gain and balance on front panel
- Front panel memory retained for one week in event of power loss

## DM-192



The DM-192 is a 192 channel high performance agile demodulator that provides features and performance found on demodulators over twice its price! It shares all of the features of the DM-154 plus front panel selectable synchronous or envelope detection and three types of full-time audio outputs plus composite audio out. Like all Videotek agile demodulators, the DM-192's front panel provides convenient control of all standard operations. The DM-192 is ideal for high quality reception and testing applications and in any application where all audio signals are required all the time.

### Features

- All high performance features of the DM-154 PLUS
- 192 channel tuning (up to cable channel 125)
- Envelope or synchronous detection (front panel selectable)
- Full time Stereo, SAP, PRO, 4.5 MHz and composite audio outputs

## DM-145GCR



Like the DM-145, the next model in the Videotek demodulator series, the DM-145GCR, is perfect for broadcast applications where the added capability of Ghost Cancellation Reference (GCR) correction to the Video output is needed. Correcting for ghosts from +3 to -42  $\mu$ sec.

### Features

- One GCR corrected output (video out #2)
- 154 channel tuning (VHF/UHF/Cable)
- Simultaneous stereo and SAP audio outputs
- HRC/IRC tuning capability via wide range fine tuning
- Random access, search or up/down channel selection
- Front panel Cable/Antenna selection
- Frequency synthesized channel selection
- Synchronous detection
- SAP and Stereo presence indicators
- Front panel LED channel display
- Controls for video gain, audio gain and balance on front panel
- Front panel memory retained for one week in event of power loss

# Frequency Agile Demodulators Common Specifications

## TUNER

TUNING RANGE:	55.25 to 801.25 MHz
CONNECTOR:	75Ω F connector, female
INPUT RANGE:	- 15 to +15 dBmV
MAXIMUM RF INPUT LEVEL:	+30 dBmV
CROSS MODULATION:	<-50 dB nominal
FINE TUNING RANGE:	±2 MHz in 64 steps (62.5 kHz per step)
FREQUENCY STABILITY:	±15 kHz typical
CHANNEL COVERAGE:	VHF Channels 2-13 UHF Channels 14-69 Cable Channels 2-99
BAND COVERAGE:	Low, Mid, High, Super, UHF
DETECTOR:	Synchronous

## VIDEO

VIDEO OUTPUTS:	2 NTSC video outputs, sync negative 75Ω source terminated
CONNECTORS:	75Ω BNC, female
LEVEL:	1V p-p, typical into 75Ω load
ADJUSTMENT RANGE:	±3 dB typical (front panel control)
CHROMA/LUMA DELAY:	Within 30 ns typical (ref -170)

## AUDIO

AUDIO LINE OUTPUTS:	Balanced stereo (left and right)
CONNECTORS:	XLR (male)
LEVEL:	0 dBm, typical across 600Ω
ADJUSTMENT RANGE:	- 16 dBm to +4 dBm

FREQUENCY RESPONSE:	50 Hz to 12 kHz (stereo mode)
SIGNAL TO NOISE RATIO:	50 dB at 0 dBm
STEREO SEPARATION:	>20 dB @ 1 kHz
DISTORTION:	2% maximum, 1 kHz to 12 kHz
AUDIO SPEAKER:	Internal 1" speaker, front panel level control
POWER INPUT:	90 - 264 VAC, 50/60 Hz
CONSUMPTION:	35 VA, typical
CONNECTION:	Detachable 3 wire power cord, per IEC 320

## ENVIRONMENTAL

OPERATING TEMPERATURE:	0° to 50°C
STORAGE TEMPERATURE:	-40° to 75°C
HUMIDITY:	90% maximum (non-condensing)

## MECHANICAL

Height:	1.75" (4.5cm)
Width:	19" (48.3cm)
Depth:	10.75" (27.3cm)
WEIGHT:	9.25 lbs. (4.2kg)

## STANDARD ACCESSORIES

Operation & Service Manual
Power Cord
Rackmount Kit

## NTSC Demodulator Selection Chart

Model	Cable Chan: (All tune VHF/UHF)	Remote	Video Out	Video SNR	Audio Out	QUAD Out	4.5MHz/Comp	IF Loop	Zero Carr Pulse	Detection	Diff Gain	Diff Phase	Size
DM-200	1-134	RS-232/422	2	≥58dB	Stereo/SAP	Y	Y	Y	Y	Synchronous	≤1.0%	≤1.0°	1/2 x 1 RU
DM-200A	1-134	RS-232/422	2	≥58dB	Stereo/SAP	N	Y	Y	Y	Synchronous	≤1.0%	≤1.0°	1/2 x 1 RU
DM-192	2-125	RS-232/422	2	>55dB	Stereo/SAP/PRO	Y	Y	Y	Y	Synchronous/Envelope	≤4.0%	≤4.0°	1 RU
DM-154	2-99	RS-232	2	>55dB	Stereo/SAP	Y	Y	Y	Y	Synchronous	≤4.0%	≤4.0°	1 RU
DM-145GCR	2-99	N	2*	>49 dB	Stereo/SAP	N	N	N	N	Synchronous	≤5.0%	≤5.0°	1 RU
DM-145	2-99	N	2	>49dB	Stereo/SAP	N	N	N	N	Synchronous	≤5.0%	≤5.0°	1 RU
DM-141A	2-99	N	2	>49dB	Stereo	N	N	N	N	Synchronous	≤5.0%	≤5.0°	1 RU
DM-100	2-99	N	1	-	Stereo	N	N	N	N	Synchronous	-	-	1/3 x 1 RU

# FREQUENCY AHILE DEMODUATOR SPECIFICATIONS

## DM-141A

### VIDEO

DIFFERENTIAL GAIN:	<5%
DIFFERENTIAL PHASE:	<5°
SIGNAL TO NOISE RATIO:	>49 dB at 0 dBmV
	>55 dB at 10 dBmV
BANDWIDTH	0.5 MHz to 3.6 MHz ±1 dB

## DM-145

### ALL SPECIFICATIONS COMMON WITH DM-141A PLUS:

AUDIO LINE OUTPUTS: Balanced stereo (left and right) SAP Output

## DM-145GCR

### ALL SPECIFICATIONS COMMON WITH DM-145 PLUS

VIDEO OUTPUTS: 2 NTSC video outputs, 1 GCR corrected

### GCR VIDEO OUTPUTS

FREQUENCY RESPONSE:	± 1 dB to 3.6 MHz added
DIFFERENTIAL PHASE:	<2° added
DIFFERENTIAL GAIN:	<3% added
SIGNAL TO NOISE RATIO:	<3 dB added
ADJUSTMENT RANGE:	None (auto corrected with GCR signal)
D.C. OFFSET:	< 50 mV with active GCR signal correction
	< 150 mV without GCR signal correction

GHOST CANCELLATION OUTPUT: Ghost Reduction: 35 dB, typical  
Operating Range: Leading Ghost to +3 µsec  
Trailing Ghost to -42 µsec

## DM-154

### ALL SPECIFICATIONS COMMON WITH DM-141A PLUS

### TUNER

IF LOOP:	+20 dBmV typical, internally enabled
CONNECTORS:	75Ω F, female

### VIDEO

DIFFERENTIAL GAIN:	<4%
DIFFERENTIAL PHASE:	<4°
BANDWIDTH:	0.5 MHz to 4.0 MHz
	±1 dB (Trap out)
SIGNAL TO NOISE RATIO:	>50 dB at 0 dBmV
	>55 dB at 10 dBmV
ZERO CARRIER OUTPUT:	User selection ON/OFF; Location of Zero Carrier Pulse selectable from line 10 through line 25 via front panel
QUADRATURE OUTPUT:	within 7°
CONNECTOR:	75Ω BNC, female

### AUDIO

4.5 MHz AURAL OUTPUT:	+10 dBmV or +34 ±2dBmV selectable
CONNECTOR:	75Ω F, female
COMPOSITE AUDIO OUTPUT:	110 kHz bandwidth
	0.5V p-p
CONNECTOR:	75Ω BNC connector, female

COMPOSITE AUDIO OUTPUT 110 kHz bandwidth, 1V p-p  
CONNECTOR: 75Ω BNC, female

### REMOTE CONTROL

RS-232 connector: (Type DB 9, Female)  
Cable or Antenna selection  
Channel selection select/scan up or down  
Audio mode selection  
Speaker volume control  
Zero Carrier enable and line location  
Fine tuning  
4.5 MHz trap enable/disable  
All commands return status of controlled feature

## DM-192

### ALL SPECIFICATIONS COMMON WITH DM-154 PLUS

### TUNER

CHANNEL COVERAGE:	VHF Channels 2-13 UHF Channels 14-69 Cable Channels 2-125
DETECTOR:	Synchronous or Envelope detection Front panel selectable
SIGNAL STRENGTH METER:	Front panel indication of input RF level

### AUDIO

AUDIO LINE OUTPUTS:	Balanced Stereo Left and Right SAP, PRO channel
ADJUSTMENT COVERAGE	- 16 to +8 dBm
CONNECTORS	XLR (male)
4.5 MHz AURAL OUTPUT	+10 dBmV
CONNECTOR:	75Ω F connector, female
COMPOSITE AUDIO OUTPUT	110 kHz bandwidth, 1Vp-p
CONNECTOR	75Ω BNC, female

• Specifications subject to change without notice.