MultiView
AK1000 / AK1500
Receiver
Quick Reference & Setup Guide
This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer’s instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

EUROPEAN UNION DECLARATION OF CONFORMITY

The manufacturer declares that this product meets the requirements of EU Directive 89/336/EEC.

FEDERAL COMMUNICATIONS COMMISSION
AND
INDUSTRY CANADA
RADIO FREQUENCY INTERFERENCE STATEMENTS

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CHAPTER 1: Specifications

1. Specifications

Cable Required: Category 5, 5e, 6 shielded or unshielded twisted pair
Compliance: CE; FCC Class A, IC Class/class A
Video Support: VGA, SVGA, XGA, XGA-2, RGBHV, RGB, Composite, S-Video, Component Video modes

Resolution and Refresh Rate:
- At 1000 ft. (305 m) or less: Up to 1920 x 1440 at up to 70 Hz;
- At 1500 ft. (457 m) or less: Up to 1600 x 1200 at up to 60 Hz;
See the Maximum Distance specification

Required Source Impedance:
- Video OUT: 75 ohms;
- Audio models: Audio OUT (if any): 600 ohms maximum
- SPDIF audio models: 75 Ohm.

Required Destination Impedance:
- Video IN: 75 ohms;
- Audio models: Audio IN (if any): 600 ohms minimum
- SPDIF audio models: 75 Ohm.

Audio Characteristics:
- AK1000A and AK1500A:
  - Channels: Right/Left summed;
  - Line Level 600 Ohm Unbalanced

Serial Characteristics:
- AK1000S and AK1500S:
  - Protocol: Asynchronous; transparent to data format;
  - transparent to data rates up to 19.2 kbps full duplex;
  - data rates to 115 kbps simplex, half-duplex modes

Connectors:
- AK1000A: (1) 3.5-mm, (2) RJ-45, (1) HD15 F;
- AK1500A: (1) 3.5-mm, (2) RJ-45, (1) HD15 F;
- AK1000S: (1) DB9 M (DTE), (2) RJ-45, (1) HD15 F;
- AK1500S: (1) DB9 M (DTE), (2) RJ-45, (1) HD15 F;
  - All: (1) rear-mounted 5-pin DIN F power inlet

Temperature
- Operating: 32 to 104°F (0 to 40°C);
- Storage: -4 to +140°F (-20 to +60°C)

Humidity
- Tolerance: Up to 80% noncondensing

Enclosure: Steel

Power:
- From utility-power (mains) outlet to power inlet, through detachable external power supply: Input: 100 to 250 VAC
  - @ 50 or 60 Hz (autosensing);
  - Output: +5 VDC;
  - Consumption: 5 watts maximum

Size: AK1000A–AK1500S: 1.2"H x 5.6"W x 6.2"D (3.0 x 14.2 x 15.7 cm)
Weight: AK1000A–AK1500S: 1.4 lb. (0.64 kg)

2. Introduction

2.1 Overview

The Magenta MultiView™ Series extends VGA and video signals over ordinary Category 5 cable.

This manual covers Magenta MultiView™ Series AK Receivers with Audio (AK1000A – AK1500A) and Magenta MultiView™ Series AK Receivers with RS-232 (AK1000S – AK1500S).

The Magenta MultiView™ Series AK Receivers feature optional integrated skew compensation that can be varied in 1 ns increments to 32 ns total per color channel to cancel the effects of skew in CAT5 cables. This feature allows you to use CAT5e and CAT6 cables to lengths up to 1500 ft.

For information on the respective transmitter unit, please refer to the appropriate manual included with the transmitter.

All models support refresh rates/resolutions up to 1600 x 1200 @ 60 Hz at up to 1500 feet (457 m) and 1920 x 1440 @ 70 Hz up to 1000 feet (305 m).

WARNING
This equipment is not intended for, nor does it support, distribution through an Ethernet network. Do not connect these devices to any sort of networking or telecommunications equipment!

2.2 Equipment You May Also Need

- Audio cable with RCA jacks.
- Video cable with HD15 connectors.
- Serial cable with DB9 connectors.
- CAT5 cable.

2.3 Compatible Cabling

CAT5 cabling for the Magenta MultiView™ Series must be pinned to the TIA-EIA T568B wiring specification (see appendix A) We also highly recommend that all CAT5 cables be pre-terminated and tested. Cables terminated on-site or in an existing infrastructure should be tested before use to ensure compliance with the TIA-EIA T568B specification. Using incorrectly terminated CAT5 cables can damage the Magenta MultiView™ Series.
3. Setup and Installation

3.1 Data Mode Configuration

AK1000S serial receivers are configured in full modem bidirectional serial modes. If you are using the daisy chain option or a multi-output transmitter (T4,T5) a MultiView™ CAT5 matrix switch or MultiView™ CAT5 distribution amp, this mode must be changed to uni-directional broadcast. To do this, configure the internal Serial Digital Board (SDB) to change the transmitters/receivers serial mode operation (See Appendix C). This configuration should be done before making any cable connections and applying power.

AK1500S serial receivers only operate in uni-directional broadcast mode and cannot be changed. Please use the appropriately configured serial transmitter unit.

3.2 Cabling Considerations

- We recommend mounting and connecting all cabling to the Magenta MultiView™ Series components before applying power.
- Makes sure that the CAT5 cable you intend to use has been tested to comply with the TIA/EIA 568B wiring specification (See Appendix A).

3.3 Making the Connections

3.3.1 CONNECTIONS AND SETUP IN GENERAL

This section contains figures showing connections with the specific Magenta MultiView™ Series models. In general, however, the connection and setup procedure at both transmitter and receiver ends is as follows:

1. Connect the source video to the Magenta MultiView™ Series transmitter video input port, which is an HD15 connector labeled SOURCE IN.
2. If desired, attach a local monitor via the local monitor port to LOCAL OUT.

NOTE
The single-port units with audio have a single audio input. So, for audio capabilities on the attached monitor, you’ll need an audio splitter.

3. Make your audio or serial connections via the phoenix connector or DB9 connector as appropriate.

4. Connect the CAT5 cable to the transmitter.

5. Apply power on the transmitter. The LED should light and, if there’s a local monitor attached, a video image should appear on the monitor’s screen.

At the receiver end:

1. Connect the VIDEO OUTPUT HD15 connector to the display unit, and attach any audio (AUX I/O) or serial connections (IOIO) depending on the model of MultiView™ CAT5 Video System.
2. Connect the CAT5 cable to the LINK INPUT connection. If daisy chaining units, connect the output CAT5 cable to the LINK OUTPUT connection.
3. Apply power. The LED should light and video should appear on the display (make sure display is powered ON).

4. To adjust video levels and skew compensation see Section 3.4.

3.3.2 CONNECTIONS ON THE SINGLE-PORT VGA/AUDIO

The single-port units with audio support video and audio signals over CAT5 cable. The audio signal is line-level audio, and powered speakers are required. Note that there’s a single connection for audio input. If you use a local station, you’ll need an audio splitter for that jack. You can also use the transmitters and receivers to make video-only connections without mono audio. Figure 3-1 shows the Single-Port MultiView™ CAT5 Video System with Audio Transmitter connections, and Figure 3-2 shows the receiver connections.

Figure 3-1. Transmitter connections on the UTx Universal Transmitter.
CHAPTER 3: Setup and Installation

3.3.3 CONNECTIONS ON THE SINGLE-PORT VGA/RS-232

The Single-Port MultiView™ CAT5 Video System with RS-232 supports video and full-modem serial (RS-232) signals over CAT5 cable for the AK1000S and the AK1500S. You can also use the transmitters and receivers to make video-only connections without serial communications. Figure 3-3 shows the Single-Port MultiView™ CAT5 Video System with RS-232 Transmitter connections, and Figure 3-4 shows the receiver connections.

**NOTE**

Even though both transmitter and receiver units contain audio jacks, audio is not supported on the RS-232 version. Plugging in audio cables may interfere with the RS-232 serial communications.

Figure 3-3. Transmitter connections on the UTx 232 Universal Transmitter.

Figure 3-4. Receiver connections on the AK 1000/1500 S.

3.3.4 CONNECTIONS ON THE VGA/AUDIO T4 TRANSMITTERS

The T4 four-port transmitter is used when the same signal is distributed to multiple display devices. You set it up and cable it the same as you would with the single-port transmitter. Figure 3-5 shows how connections are made on the audio version, and Figure 3-6 shows how connections are made on the serial RS-232 T4S version.

**NOTE**

Serial communication mode is unidirectionally broadcast when using T4, T5 transmitters and daisy-chained receivers. In this mode, all other MultiView™ CAT5 Video System devices must be of the simplex serial type. For more information, contact Technical Support.
3.3.5 A Typical Single-Port Transmitter–Receiver Application
Figure 3-7 shows a typical application in which the single-unit transmitter is connected over CAT5 to a receiver. Although the figure shows optional audio and RS-232 connections, no model supports both audio and RS-232 communications. You can use the audio or RS-232 units as video-only transmitters/receivers, too.

![Figure 3-7. Transmitter to receiver connections.](image1)

3.3.6 A Typical T4 Transmitter–Receiver Application
Figure 3-8 shows an application in which a MultiView™ CAT5 Video System T4 Transmitter is linked to four MultiView™ CAT5 Video System Receivers. Optional audio and serial connections are not shown.

![Figure 3-8. T4 Transmitter to receiver connections.](image2)
### 3.4 Video Adjustment

#### 3.4.1 Cable Distance Compensation Settings

In order to get the highest quality video signals from your MultiView™ CAT5 Video System, please follow the instructions and diagrams below:

An Image Adjustment Utility is available for download from:
http://www.magenta-research.com/test

Simply open it in any image browser on a computer.

If the image file cannot be downloaded, use a utility to draw a black box on a white background.

Before you begin, ensure the Coarse Select LED is set to the short range, the Fine Adjust knob is fully counterclockwise and, if applicable, all Skew Compensation switches are in the down, or 0 position.

1. Use the Coarse Select Button to switch the LED so that the white area to the right of the black box has minimal shadowing. See Figure 3-10. (This setting should not result in a brighter trail next to the window).
2. Turn the Fine Adjust knob clockwise until the shadow next to the black box just disappears. The brightness in the white area should be the same as the white area above and below the black box.

#### 3.4.2 Skew Compensation Settings

For cable lengths greater than 500 feet, the Akucomp™ Skew Compensation Module may be included to adjust for signal timing differences due to differing pair lengths within the CAT5 cable. Using the delay switches, skew may be compensated from 0 to 32 nanoseconds in 1 nanosecond increments on each color pair.

If skew compensation is required, but the Akucomp™ module is not installed, please see Appendix E and/or call for technical assistance.

An image file is available to assist in these settings. See Figure 3-12 for an example.

1. Using the up/down dipswitches, adjust each color to align the Red, Green, Blue lines so that they are stacked on top of each other as a single line.
2. Make fine adjustments until color fringing is minimized.

Notes:
The dipswitches are additive. i.e. if the 16, 4, and 1 switches are on, this would give a 21 nanosecond delay.

Not all colors will have the same delay settings.
**Ensure switches are fully up or down. Loss of signal may occur if switches are set in the middle position.**
4. Troubleshooting

4.1. Common Problems

In most cases, nearly every issue with the MultiView™ CAT5 Video System can be resolved by checking the CAT5 termination and making sure that it’s pinned to the TIA/EIA 568B wiring specification. However, there may be other problems that cause the system to not perform as it’s designed. Below are solutions to the most common installation errors.

**Problem:** No video signal at the transmitter local port or at the receiver.
**Solution:**
- Check that both units are powered.
- Make sure the CAT5 cable is terminated correctly per the TIA/EIA 568B wiring specification.
- Is the display device powered on and functioning? In some cases, the video termination may be mismatched. The transmitters and receivers ship with 75-ohm termination as the default. To disable termination, see Appendix B.

**Problem:** Poor video quality:
**Solution:**
- Have all receiver adjustments been finished (see section 3.4).
- Check all cable connections.
- The video signal’s refresh rate may be set too high. Reset to a lower refresh rate in your monitor-configuration menu.
- There may be a delay skew issue. See Appendix E and/or call Technical support.

**Problem:** Poor audio quality:
**Solution:**
- Powered speakers are required. Make sure speaker power is ON.
- Check input source levels from the source device. Make sure the audio source is not overdriven or underdriven.
- If Daisy Chaining, audio termination must be removed in DP units. The last receiver should only have audio termination (see Appendix C).

**Problem:** Serial communication doesn’t work correctly.
**Solution:**
- Are the serial devices connected properly? Are the serial parameters correct for source/destination devices?
- Are the serial cables terminated correctly? If a null-modem cable is used, it must be placed at the receiver end.
- When using RS-232 transmitters or receivers in daisy chains, Cat5 switches, Cat5 distribution amps, or Multi-output transmitters, the serial signal is a unidirectionally broadcast mode only. In this mode, all other MultiView™ CAT5 Video System devices must be the simplex serial type. For assistance, contact Technical Support.
- The last device in a T4 transmitter or daisy chain configuration must be a receiver unit with a terminated serial board. See Appendix D for Serial board settings.

**Problem:** “Green shift” or “green washout” on multimedia signals.
**Solution:**
The standard video/serial model is designed to function with DC coupled signals in which the black level is referenced to 0 volts. Nearly all VGA cards function this way. Some media servers, however, provide AC coupled signals and can cause a green color shift in the video. This is a result of the sync clamping on the red and blue channels of the video/serial model.

For five-component (RGB/H&V) AC coupled video, the MultiView™ CAT5 Video System UTx Universal transmitter has been designed with full DC restoration capability. This problem is easily solved via a simple switch setting in the UTx Transmitter. Please refer to the UTx Transmitter user manual.
Appendix A. Cabling Pinouts

Table A-1. HD15 video connector.

<table>
<thead>
<tr>
<th>Pin</th>
<th>RGBHV (VGA)</th>
<th>RGBS</th>
<th>RGsB</th>
<th>Composite</th>
<th>SVHS (Y/C)</th>
<th>YUV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Red +</td>
<td>Red +</td>
<td>Red +</td>
<td>C+</td>
<td>V+</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Green+</td>
<td>Green+</td>
<td>Green+</td>
<td>C+</td>
<td>Y+</td>
<td>Y+</td>
</tr>
<tr>
<td>3</td>
<td>Blue+</td>
<td>Blue+</td>
<td>Blue+</td>
<td></td>
<td>U+</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Gnd</td>
<td>Gnd</td>
<td>Gnd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Red-</td>
<td>Red-</td>
<td>Red-</td>
<td>C-</td>
<td>V-</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Green-</td>
<td>Green-</td>
<td>Green-</td>
<td>C-</td>
<td>Y-</td>
<td>Y-</td>
</tr>
<tr>
<td>8</td>
<td>Blue-</td>
<td>Blue-</td>
<td>Blue-</td>
<td></td>
<td>U-</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Gnd</td>
<td>Gnd</td>
<td>—</td>
<td></td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Gnd</td>
<td>Gnd</td>
<td>—</td>
<td></td>
<td>—</td>
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</tr>
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<td>12</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>H Sync</td>
<td>C Sync</td>
<td>—</td>
<td></td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>V Sync</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Gnd</td>
<td>Gnd</td>
<td>—</td>
<td></td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

Note: Standard AK series receivers support VGA computer video.
AK series receivers designated as CS or SA support Composite, S-Video, OR Component video.
Non-CS/SA and CS/SA units are not interchangeable or compatible.
APPENDIX B: Setting Sync Signal Termination

Appendix B. Setting Sync Signal Output Termination

In some cases, it may be necessary to disable the 75-ohm termination of the video outputs on the MultiView™ CAT5 Video System units. This can be done by opening the case of each unit and installing jumpers on the circuit board. The settings disable/enable the 75-ohm termination on individual units. For instance, changing a transmitter termination affects the local monitor port only; it doesn’t affect the receivers. Conversely, changing a receiver affects the output port of the receiver, not the transmitter. The following diagrams show the jumper locations for each type of assembly.

APPENDIX D. Serial Daughterboard (SDB) Settings

The single-port serial transmitters and single-port and dual daisy chainable serial receivers contain an internal serial daughterboard (SDB) that can be configured for various serial modes. Multi Port Cat5 transmitters do not utilize the SDB and are configured for Mode 1 only.

The SDB hardware configuration is done via jumper settings. These jumpers are used to set the various modes of operation. As shown below. Both ends must be set the same.

To access the SDB on transmitters and receivers:

1. Make sure the unit is powered OFF
2. If necessary, unplug all cables to the unit.
3. Unscrew the top screw as well as the two set screws in the DB9 connector. Lift the cover off

Table D-1 shows the Transmitter SDB configuration settings.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Type</th>
<th>Baud (Max)</th>
<th>JP1 1-2</th>
<th>JP1 3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Simplex (one way)</td>
<td>115k</td>
<td>OUT</td>
<td>IN</td>
</tr>
<tr>
<td>2</td>
<td>Full Duplex (2 way) Short (&lt; 500 ft)</td>
<td>19.2k</td>
<td>OUT</td>
<td>OUT</td>
</tr>
<tr>
<td>3</td>
<td>Full Duplex (2 way) Long (to 1500 ft)</td>
<td>19.2k</td>
<td>IN</td>
<td>OUT</td>
</tr>
<tr>
<td>4</td>
<td>Half Duplex (2 way) Long (to 1500 ft)</td>
<td>115k</td>
<td>IN</td>
<td>IN</td>
</tr>
</tbody>
</table>

Notes:

- Mode 1 is required when using multi output transmitters and when daisy chaining receivers.
- Mode 3 may introduce noise in video over 1,000 ft when serial communication occurs.
- JP1 5-6 and 7-8 terminate the serial bus and must be IN on the last receiver in a daisy chain or if using a point to point link.
APPENDIX D. Serial Daughterboard (SDB) Settings, cont

Table C-2 shows the **Receiver SDB** configuration settings.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Type</th>
<th>Baud (Max)</th>
<th>JP1</th>
<th>JP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Simplex (one way) (to 1500 ft)</td>
<td>115k</td>
<td>1-2 See Notes</td>
<td>1-2 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-4 See Notes</td>
<td>3-4 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5-6 IN</td>
<td>5-6 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7-8 OUT</td>
<td>7-8 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9-10 OUT</td>
<td>9-10 OUT</td>
</tr>
<tr>
<td>2</td>
<td>Full Duplex (2 way) Short (&lt; 500 ft)</td>
<td>19.2K</td>
<td>1-2 See Notes</td>
<td>1-2 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-4 See Notes</td>
<td>3-4 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5-6 OUT</td>
<td>5-6 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7-8 OUT</td>
<td>7-8 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9-10 OUT</td>
<td>9-10 OUT</td>
</tr>
<tr>
<td>3</td>
<td>Full Duplex (2 way) Long (to 1500 ft)</td>
<td>19.2K</td>
<td>1-2 See Notes</td>
<td>1-2 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-4 See Notes</td>
<td>3-4 OUT</td>
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<td></td>
<td>5-6 OUT</td>
<td>5-6 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7-8 IN</td>
<td>7-8 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9-10 OUT</td>
<td>9-10 OUT</td>
</tr>
<tr>
<td>4</td>
<td>Half Duplex (2 way) Long (to 1500 ft)</td>
<td>115k</td>
<td>1-2 See Notes</td>
<td>1-2 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3-4 See Notes</td>
<td>3-4 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5-6 IN</td>
<td>5-6 OUT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7-8 IN</td>
<td>7-8 IN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9-10 OUT</td>
<td>9-10 OUT</td>
</tr>
</tbody>
</table>

**Table D-2. Receiver SDB jumper settings**

**Notes:**
- **Mode 1** is required when using multi output transmitters and when daisy chaining receivers.
- **Mode 3** may introduce noise in video over 1,000 ft when serial communication occurs.
- **JP1 1-2 and 3-4** terminate the serial bus and must be **IN** on the last receiver in a daisy chain or if using a point to point link.

APPENDIX E. AkuComp Skew Module

The AK1000/AK1500 receivers have an optional skew compensation module that can be installed or removed.

To install the skew compensation module:

1. Remove top cover.
2. Remove AK series PCB assembly from bottom cover.
3. Remove the 3 jumpers from J10 pins 2-3, 6-7, 10-11 (J10 is the 11 pin header straight up from the VGA connector).
4. Insert the AkuComp assembly onto the AK series PCB using 11 pin headers J9 and J10.
5. The correct orientation of both boards are with the Fine Adjust knob of the AK 1x00 facing you, and the text on the Akucomp right side up and readable.
6. Ensure all switches on the Akucomp board are down (towards Fine Adjust knob).
7. Reassemble unit.
8. Check that the Akucomp switches are all solidly in the 0 position once top cover has been secured.

Removal is the opposite of the above. Ensure 3 jumpers are installed in locations shown in Figure E-1.

**Figure E-1.**
Appendix F. Rackmounting Units

The Rackmount Kits include brackets for mounting a single transmitter, single receiver, or a single dual daisychainable receiver. Figure F-1 shows the 1-Unit Rackmount Bracket, which can be used to mount a single unit on a wall. Figure F-2 shows the 4-Unit Rackmount Bracket, which holds four units in a 19” x 1U rack.

Not shown are brackets for 8 units and brackets for AK series receivers and T4 transmitters. The 8-Unit Rackmount Bracket holds the mounted units like the 4-Unit Rackmount Bracket but is 2U high instead of 1U high, stacking 4 slots directly above 4 slots. The 3-Unit AK receiver and T4 Transmitter Bracket holds 3 units in a 19” wide x 1U high panel. The 6-Unit AK receiver and T4 Transmitter Bracket occupies 2U high rack space stacking 3 units atop 3 units.

Figure F-1. Receiver Mounting Bracket.

Figure F-2. Rack Mounting kit.