

TELEX.

TELEX COMMUNICATIONS, INC.

9600 Aldrich Ave. So., Minneapolis, MN 55420 U.S.A.

AD-200

CAT. NO. 71108-000, 200, 300

AMPLIFIED BROADBAND VHF

ANTENNA SPLITTER

PN 802505-2

INSTRUCTION SHEET

GENERAL DESCRIPTION

The Telex-200 Active Broadband Splitter makes it possible to operate four wireless diversity microphone receivers on four separate frequencies using only two antennas. It also features a high degree of output isolation; a necessity in multi-frequency systems to prevent intermodulation.

The AD-200 Splitter is compatible with all Telex VHF diversity wireless receivers, as well as receivers of other manufacturers, which use standard 50-ohm antennas and connectors.

SPECIFICATIONS

Frequency Range	150 - 235 MHz
3rd Order Intercept Output.....	+28 dbm
Net Gain	4 dB
Noise Figure.....	4.0 dB
Output Isolation	20 dB
Connectors, Antenna.....	Standard SO-239 UHF receptacles (Mating plug type PL-259)
Connectors, Power.....	2.1 mm x 5.5 mm
Indicators, Power	Green LED
Power Supplies	INPUT: 120VAC 60 Hz \ OUTPUT: 15 VDC 1.3A INPUT: 230 VAC 50 Hz \ OUTPUT: 15 VDC 1.5A

PRODUCT FEATURES

The AD-200 is supplied with SO-239 (UHF) type connectors for compatibility with standard 50 ohm coaxial connectors. Coaxial cables are also supplied for splitter to receiver antenna jack connections. The AD-200 has an external AC power supply. Power out jacks and cables are provided to supply up to four receivers thus eliminating excess power supply clutter.

A green LED mounted on the front panel indicates power ON. A "rocker" type switch controls power to the splitter and receivers.

Rack panel mounting brackets allow the AD-200 to be mounted in a standard 19 inch equipment rack.

ANTENNA PLACEMENT

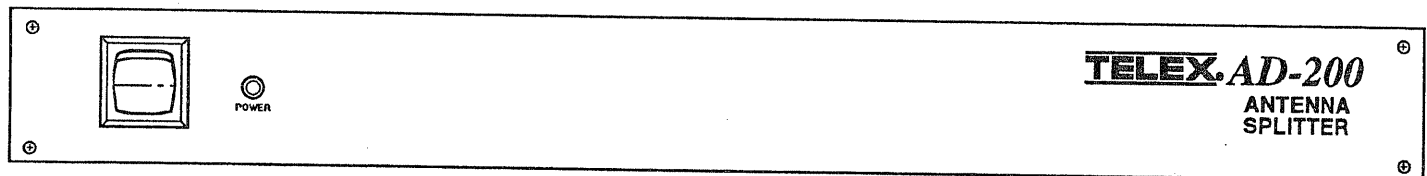
Locate the antennas in clear view of all points in the performing area. Be sure obstructions **DO NOT** block, absorb, or reflect the transmitted signal. Location in, or adjacent to, the performing area is optimal.

SYSTEM CONFIGURATION

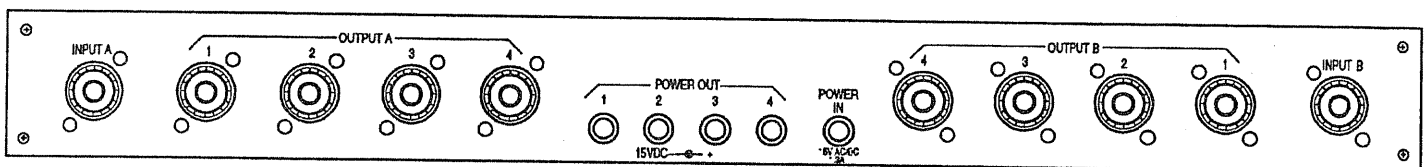
Figure 2 illustrates the typical system configuration using the AD-200.

Figure 3 illustrates an arrangement where two splitters have been cascaded. By connecting one of the outputs of the first splitter to the antenna inputs of the second splitter, three additional receivers may be driven by a single pair of antennas.

SPECIAL NOTE: In any system, unused splitter outputs should be terminated with a 50 ohm "dummy load". See the accessories section at the end of this manual.



Front View



Rear View

Figure 1
Front and Rear View

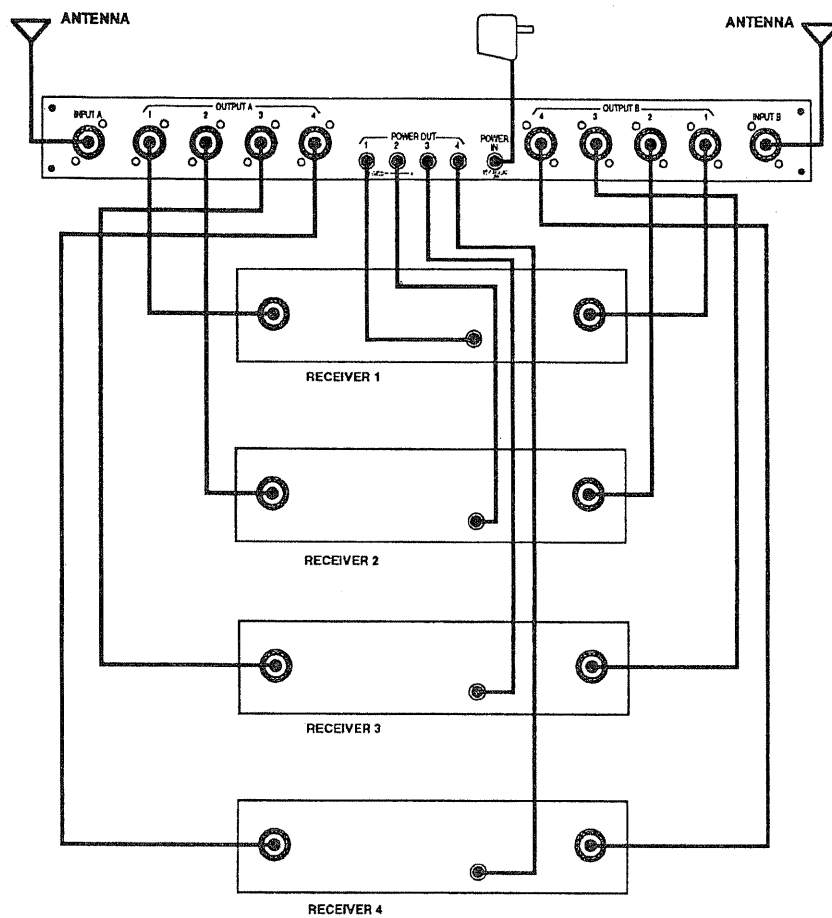


Figure 2
System Configuration

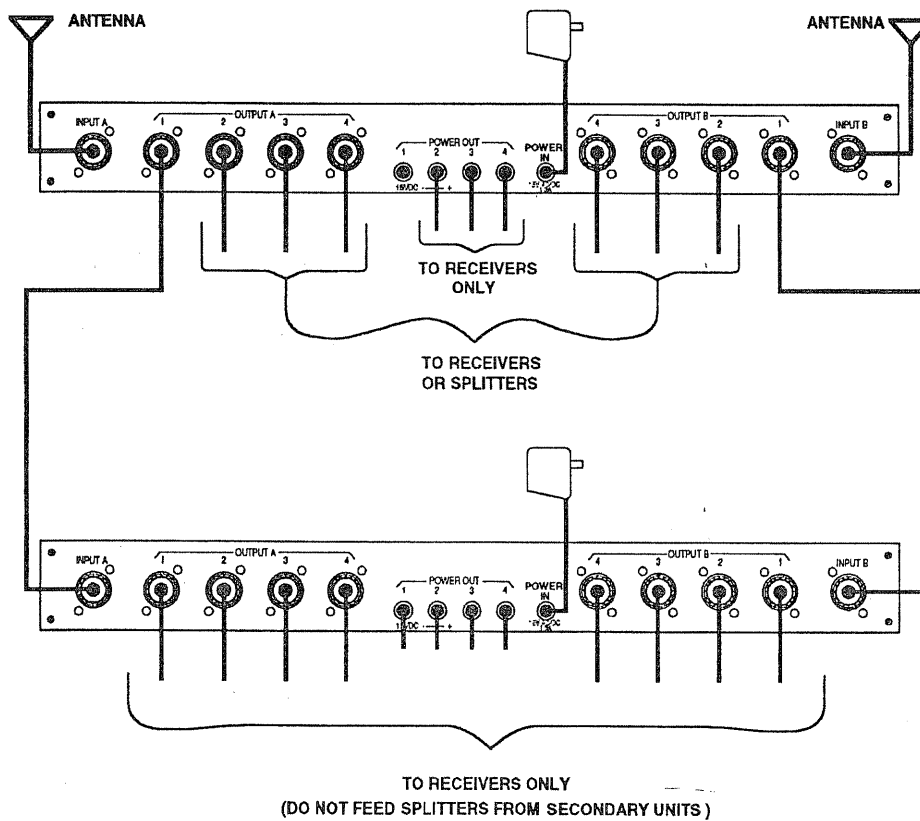


Figure 3
Cascading

POWER SUPPLY

The AD-200 is equipped with a power supply that is rated with a minimum output of 15 VDC at 1.3 amps. The power cables provided to hook up receivers have 2.1 mm X 5.5 mm barrel connectors on both ends. These cables will fit most Telex wireless receivers except the FMR-1, FMR-2, and FMR-50. To accommodate these receivers, cut off the 2.1 mm plug on one end of the power cable and replace with a 2.5 mm x 5.5 mm barrel plug. Be sure center pin is connected to center pin on both plugs.

ANTENNA REQUIREMENTS

The AD-200 may be used with a variety of antennas. For best results, use a pair of ALP-1 directional log periodic antennas. See Figure 4. The ALP-1 offers the best performance and broadest bandwidth available. Good results may be obtained with 5/8 wave antennas. See Figure 5. These are supplied with the FMR-200, FMR-4, and FMR-2. They may also be ordered separately.

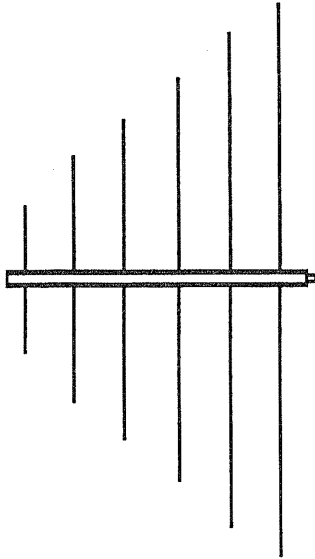


Figure 4

ALP-1 Directional Log Periodic Antenna

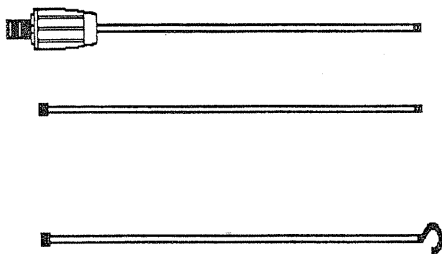


Figure 5
AN/ANC-58
5/8 Wave Antenna

When using 5/8 wave antennas, we recommend using the higher frequency model when the transmitters operate in both the 159-185 MHz and 185-216 MHz bands.

The 1/4 wave antennas such as those supplied with the FMR-100, FMR-70 and R-20 are not recommended but may be used if precautions are taken. The only configuration acceptable for 1/4 wave use is when the splitter is not rack mounted. The antennas must be mounted on the AD-200 in the same manner as shown in the receiver manuals.

Any antenna used should be mounted within line-of-sight of the transmitters.

RACK MOUNTING

Rack mount brackets are supplied with the AD-450. To attach the brackets, proceed as follows:

- Align the rack bracket with the holes on the side of the unit. See Figure 6
- Install flatwashers and No. 6 screws in the holes. Tighten securely. Repeat on the other side of the unit. For best alignment, perform the above steps while the unit and rack brackets are setting on a flat surface.
- Insert the unit into a 19" rack enclosure and insert four #10-32 x 3/8" Phillips pan head screws (supplied) in each corner of the rack mount brackets and secure.

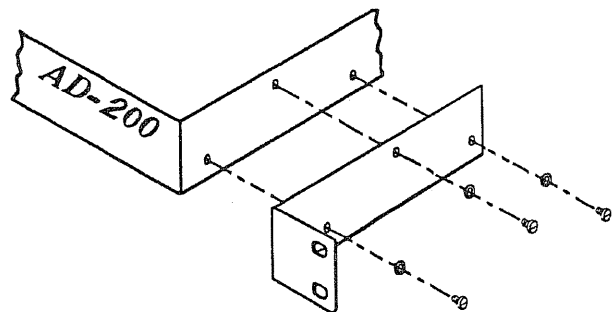


Figure 6
Rack Mounting

COAX CABLE

For best results, it is recommended that cable losses be kept under 4 dB. (Every 3 dB of signal loss results in a system operating distance reduction of 25%). For cable runs up to 50 feet, RG58/U cable will work fine. For runs over 50 feet, use standard RG8/U or Belden type 8214 cable. Table 1 shows the cable losses for different cable types and cable lengths. Numbers in bold type indicate recommendations to use particular cable types for various cable lengths based on economy vs cable loss.

COAX CABLE LOSS

Length (ft.) of Coax Cable	Signal Loss (dB)		
	Standard RG58/U	Standard RG8/U	Polyfoam- type RG8/U
50	3.0	1.8	1.0
75	4.5	2.6	1.5
100	6.0	3.5	2.0
125	7.5	4.4	2.5
150	9.0	5.3	3.0
175	10.5	6.1	3.5
200	12.0	7.0	4.0

Table 1

ORDERING INFORMATION

Model No.	Description	Voltage	Catalog No.
AD-200	169.000-235.000 MHz Splitter	120 V 60 Hz U.S.	71108000
AD-200	169.000-235.000 MHz Splitter	230 V 50 Hz U.K	71108200
AD-200	169.000-235.000 MHz Splitter	230 V 50 Hz Euro	71108300

ANTENNAS

Model No.	Description	Catalog No.
AN-58L	5/8 Wave Antenna for 150-176 MHz, w/25 ft. Coax Cable	63900-000
AN-58H	5/8 Wave Antenna for 176-216 MHz, w/25 ft. Coax Cable	63900-001
ANC-58L	5/8 Wave Antenna for 150-176 MHz w/Right angle Connector	63905-000
ANC-58H	5/8 Wave Antenna for 176-216 MHz, w/Right angle Connector	63905-001
ALP-1	Directional Log Antenna for 150-235 MHz	63910-000

ACCESSORIES

Model No.	Description	Catalog No.
RM-C	Rack Mounts with coax connectors. Allows front of rack attachment for antenna coax cable.	71081-003
CX-4	Coax Cable-4 foot	63901-001
CX-25	Coax Cable-25 foot	63901-000
AWB-1	Wall Mount bracket for AN-58 series antennas	63906-000
ASA-1	Mic Stand bracket for AN-58 series antennas	63907-000
TP-1	50 ohm dummy load	650081

REPLACEMENT PARTS

Description	Part No.
Power Supply 120 V 60 Hz U.S.	59224-001
Power Supply 230 V 50 Hz U.K.	730108
Power Supply 230 V 50 Hz Euro	730109
DC Power Cables 2 ft. (60 cm)	690396
Coaxial Cables, 2 ft. (60 cm)	690400