Andrea

“SHARP FOCUS” TELEVISION
INSTRUCTIONS

Model 2F12
Model 8F12

Andrea
“SHARP-FOCUS” TELEVISION

Manufactured by
ANDREA RADIO CORP.
48-39 48th Avenue, Woodside, L. I., N. Y.

RADIO and TELEVISION ENGINEERS and MANUFACTURERS
Renowned throughout the world for engineering that delivers Peak Performance
GUARANTEE &  
REGISTRATION  
Three months' factory guarantee: This ANDREA RADIO set is covered by  
the Standard Factory Guarantee adopted by the Radio Manufacturers' 
Association, Inc. Defects of material or workmanship not due to misuse, 
abuse, or alteration will be remedied by your dealer within 90 days after date of 
purchase. 

No responsibility is accepted by the company for any changes made by 
service agents or dealers for fitting replacement parts supplied free of charge under 
Guarantee by the company or for any other work. 

In the envelope containing the instruction sheets are the registration 
cards which must be made out by you to validate the Manufacturers' Guarantee. 

1. The card marked "Owner's Copy" must be filled in by the television technician 
making the installation. This copy is for your records. Be sure it is signed. 

2. The card marked "Dealer's Copy" is a duplicate of the above and must be re- 
tained by the dealer who served you. 

3. The card bearing the return address of ANDREA RADIO CORP. must be filled in 
and mailed to the manufacturer by you. 

4. This card marked "Distributor's Copy", is to be sent by the dealer to his dis-
tributor to validate his Guarantee. 

WARNING 
The Manufacturers' Guarantee is valid only in the event that the Guar-
antee Registration card #3 is filled in and mailed to the ANDREA RADIO 
CORP. Also, the unpacking and installation must be carried out by a competent tele-
vision technician, and no unauthorized person, at any time, may tamper with the as-
bly, wiring, adjustments, or circuits. 
This television receiver is a precision instrument and its installation, 
with an effective antenna for best picture reception, is a matter of detailed knowledge 
and experience. When your authorized television technician has made the installation 
and demonstrated the receiver to your satisfaction in your home, it is a perfectly safe 
and reliable instrument for your entertainment, easy to operate and should only require 
occasional servicing or readjustment. 

However, if you have any trouble or difficulty with the operation, im-
mEDIATELY turn off the power, call in your dealer and do not attempt to make any ad-
justments which you were not definitely advised to do at the time of installation. Also, 
if you wish the instrument to be moved, call your dealer, as readjustments may be ne-
cessary. 

UNPACKING &  
INSTALLING 
The unpacking and installing of your 2F12 or 6F12 receiver, together with 
the installation of a correct antenna for it, should be attempted only by a trained television technician. Your dealer will be pleased to 
handle all details of unpacking and installation. 

The picture tube is packed in a separate carton and all labels on the 
carton should be read and all instructions carefully followed. It is a high vacuum de-
vice and is hazardous if handled by anyone not familiar with such apparatus. Moreover, 
the picture tube is a very expensive part of the television receiver and is easily dam-
aged by inexperienced or careless handling. Should you receive your instrument and pic-
ture tube before the technician arrives to make the installation, keep them both in 
their cases in a location where they will be safe, and do not permit anyone to open or 
examine or tamper with them. 

A location should be carefully planned for your receiver where it can be 
installed by your technician in a level position, convenient to an electrical outlet, 
and where no bright light will shine directly on the picture screen either in day-time 
or night-time, and where the illumination can always be conveniently dimmed for picture 
reception.
Provision should be made for locating the antenna at a good height above the roof with as direct a path and as easy access as possible for the antenna transmission line to the receiver.

In the event the set is moved to another location, a slight readjustment of the controls in the rear may be necessary. For such cases only, the sketches in figure 2 give the location and use of each control.

When your receiver is installed and you get good reception, have the service engineer, before he leaves, give you a practical demonstration of how the various controls function.

FEATURES & ACCESSORIES: ANDREAS Sharp-Focus television models 2812 and 8812 are designed for operation on the present television picture and approximate sound bands between 44 and 50 megacycles, and to receive radio broadcast reception on the standard broadcast band plus the medium and short wave bands, consisting of all international foreign short wave channels from 540 to 24,000 kilocycles, plus automatic station tuning of 6 of your favorite stations on the standard broadcast band, and a set sound indicator for accurate manual tuning. All these and many more advanced engineering design features are incorporated in a beautifully styled period cabinet in which all operating controls are concealed. Model 8812 also has an automatic phonograph.

POWER RATING: If your television receiver is plugged into an incorrect current supply it will not operate properly and it may be seriously damaged. Your dealer or power company can tell you what type of current you have.

The ANDREAS 2812 and 8812 receivers operate only on 110 to 125 volt, 60 cycle AC current. Make sure your current supply is correct for the instrument before you plug it into the house outlet or socket.

ANTENNA: A television receiving antenna and its installation must conform to much higher standards than an antenna for reception of international short wave and standard broadcast signals because:

1. At the ultra short wave lengths employed in television, intervening obstacles have a pronounced shielding effect, causing low intensity signals, and often severe trouble with multi-path transmissions. These produce blurring and multi-image pictures. See picture chart - figure 50 - for effect.

2. The picture signal is comprised of a very wide band or range of frequencies, all of which must be received with good efficiency.

3. The discernment of the eye is much more critical than that of the ear.

The special ANDREAS Teleceptor - picture end sound antenna - Model 66 - is available. For best results, it is ESSENTIAL that the installation be made by a COMPETENT TELEVISION TECHNICIAN.

High frequency electric discharges reaching the antenna or receiver will spoil the picture. Such discharges reaching the antenna or receiver caused by ignition systems on gasoline and oil engines and by high frequency electrical apparatus, such as X-ray generators and similar devices used for medical and other purposes. The effect of aircraft passing overhead is to slightly reduce the brightness according to their proximity. Automobiles near and at hand may produce flashes of light and in certain cases destroy ammonia in the picture. Medical electrical equipment is apt to cause speckled and herringbone bands across the picture.

THE NECESSITY OF THE BEST POSSIBLE INSTALLATION WITH GOOD PERMANENT GROUND CONNECTION OF BOTH Receiver AND Antenna, with FULL consideration of all local conditions, thus becomes apparent and we EMPHASIZE the desirability of having a TRAINED TELEVISION TECHNICIAN make the installation.

A GOOD GROUND: A good ground connection from the terminal "G" on the antenna terminal is NECESSARY and is made to a solid water pipe or equivalent "good ground" which is absolutely necessary to avoid possible danger from electric shock. This receiver contains apparatus producing high voltages. No one but a trained television technician should make repairs or adjustments to the television apparatus.

This receiver is equipped with two safety lock-in switch devices and when the back is removed, power is cut off from all apparatus. The two switches are on the inside of the two side panels. No danger is possible from the high voltage television apparatus unless these two switches are simultaneously pushed in. Under no circumstances should these switches be tampered with.
Television reception follows the laws governing high frequency wave transmission and reception. Television waves act in many respects like light waves. This means that there are problems of reflection, diffusion, intensity and interference, all of which affect the reproduction of the picture.

The receiver antenna should preferably be at a good height, without interruption in direct "line of sight" of the transmitter antenna, of the correct type, and correctly installed. Buildings and other structures may obstruct and reflect the television waves. Automobile ignition systems, diathermy apparatus in hospitals and airplanes flying low may all have an adverse effect.

The scanning device and associated apparatus of the television transmitter transform the original scene into a myriad of electric impulses and radiate these in succession, as formed, through the air. The receiver takes the myriad impulses and rebuilds the original picture with sufficient rapidity and synchronization to appear smooth and complete to the human eye.

Television pictures may be compared in certain ways with motion pictures. The illumination in the room should be dimmed - no light close to or falling on the screen. During the day it will usually suffice to draw the curtains. In motion pictures approximately 24 successive still pictures are flashed on the screen per second and the eye sees these as a continuous picture. In television, the pictures are reproduced at 30 per second by reassembling the whole sequence of elements for each picture in 1/30th of a second.

**TELEVISION OPERATION**

**CAUTION**

Before the receiver is turned on at any time, turn wave band Selector control knob (Fig.1) to either the S, L, M, A or P position, and rotate counter-clockwise contrast and brightness controls (Fig.1) all the way.

**HOW TO TURN RECEIVER ON**

Turn master off-on Tone Control knob clockwise (Fig.1) to switch power on. Further rotation varies the tone of the television sound - Full tone reproduction being with the knob turned fully counter-clockwise. This knob is the master control knob for turning the entire instrument "off" or "on." After about 30 seconds, turn the Wave Band Selector knob (Fig.1) to position "T." This turns the television section of the instrument "on" and automatically removes the dial illumination. Allow sufficient time for the tubes to heat before proceeding further.

**HOW TO CONTROL TELEVISION SOUND VOLUME**

Turning Volume Control knob (Fig.1) clockwise increases the television sound volume; counter-clockwise decreases volume.

**TELEVISION CHANNEL SELECTOR CONTROL SWITCH**

The television Channel Selector Control (Fig.1) selects automatically, the desired station and accompanying sound from which it is desired to receive television programs. This knob is marked 1, 2, 3, 4, 5 - representing the first, second, third, etc., television channel:

- **CHANNEL 1** - 44-50 MC
- **CHANNEL 2** - 66-68 MC
- **CHANNEL 3** - 66-75 MC
- **CHANNEL 4** - 78-84 MC
- **CHANNEL 5** - 84-90 MC

Set the knob to the channel corresponding to the television station desired.

**FINE TUNING CONTROL**

This control is used to obtain best picture reception by eliminating possible distortion from interfering signals which show a moving ripple in the picture. Should the control be incorrectly set, picture distortion will result. In most cases this control should be adjusted for each television channel by listening to the accompanying sound until maximum volume is obtained, using a medium or low level and noting that the picture is not distorted at this setting. See picture chart - Fig.5 illustrates the test chart picture when all controls are correctly adjusted. Fig.9 shows the effect on the picture of extraneous interference that in some cases can be eliminated by a slight readjustment of the fine tuning control. Fig.10 shows what also may occur when the fine tuning control is incorrectly set.

**CONTRAST CONTROL**

The contrast knob, located in the top panel (Fig.1), regulates the
contrast level of the picture. Turning this control slowly clockwise increases the picture contrast from grays to black and white. Excessive contrast gives blurred or feathered outline to the images which lack half tones, while too little contrast results in an extremely gray image without character or depth. The correct adjustment is to set the controls (both Contrast and Brightness) where black objects appear on the screen as a very dark gray. See picture chart — (Fig.6) shows the received test chart picture with the controls set correctly. (Fig.6) illustrates the picture with the contrast advanced too far.

**BRIGHTNESS CONTROL**

For controlling brightness level of picture, observe the difference between operating this control and the Contrast control. Both controls should be operated together. For example, if the contrast is adjusted correctly and the picture illumination is too low or too bright, and the Brightness control readjusted for more or less illumination, the picture contrast will change. Hence, the Contrast control must be readjusted. Therefore, whenever the Contrast control is turned clockwise, the Brightness control must be turned counter-clockwise. (See picture chart — (Fig.7 and Fig.8).

**NOTE**

If the Brightness control is set too high and the Contrast control too low, white diagonal lines will be seen across the picture, which indicates that the Brightness control must be reduced. In some cases, if the antenna pickup is insufficient, the same results will occur.

Always remember to turn the Brightness and Contrast controls completely counter-clockwise when viewing is over. (Fig.7) indicates what occurs to the picture when the Brightness control is advanced too far. The picture is thin and lacks blacks.

**HOW TO RECEIVE**

Before turning the receiver on, proceed as follows:

1. Turn Brightness and Contrast controls (Fig.1) completely counter-clockwise.
2. Open doors of radio panels (Fig.1). Turn wave band Selector knob marked S-I-M-A-P-T to any position but "M".
3. Turn master OFF-ON Control (Fig.1) clockwise until click is heard.
4. Turn Volume Control (Fig.1) 1/4 turn clockwise.
5. Turn Wave Band Selector knob S-I-M-A-P-T to position "T".
6. Turn Television Selector switch to correct position.
7. Turn Contrast control fully counter-clockwise and then turn Brightness Control clockwise slowly until a slight illumination appears on the screen. Then turn contrast-clockwise until illumination just disappears.
8. Advance the Contrast Control until the picture appears at its best. Then advance Brightness Control clockwise slowly, if necessary, and readjust both controls for most suitable picture. A little practice of these adjustments will enable you to easily obtain the correct setting. Incorrect control settings give similar results to under or over exposed photograph prints.
9. If on interfering ripple is observed in the picture, adjustment of the fine tuning knob (Fig.1) may reduce or eliminate the trouble.
10. Readjust the sound volume and tone controls (Fig.1) to your liking.
11. Always turn wave band Selector knob (Fig.1) to any position but that marked "M" before turning receiver "off".

**RADIO OPERATION**

**THE DIAL AND CONTROLS**

In Fig.1 is shown the cabinet front, incorporating the controls necessary for correct operation. Turn Master Power OFF-ON Tone Control clockwise to apply power to receiver. Should tuning scale become dim light, then the Wave Band Selector knob is in position "T". Turning to another position will light the scale.

There are three scales on the Tuning Dial marked M-I-S. Scale "M" is for the Standard Broadcast and police calls. "I" is for the Intermediate Short Waves covering police, aircraft, amateur, and the 150, 30, 40, 40 meter tropical and international broadcasting stations. "S" scale covers ships, amateur, transoceanic telephone, aircraft, as well as the 31, 25, 18, 16 and 13 meter international foreign short wave bands.

As an aid in identifying the wave band position upon which the receiver is functioning, the center of each scale, plus the markings on the lower dial, become individually illuminated in a different color for each position of the Wave Range Selector Control knob. This automatically shows which wave band is in use or whether the
Automatic position (designating push-button tuning) or Phonograph are cut in.

PHONOGRAPH Model EP12 contains an Automatic Record Changer which plays either eight 10" records or seven 12" records automatically. In Figure 3 is illustrated the method of operation. Your dealer will instruct you on the proper use of this part of the receiver.

Model EP12 can be used with an external phonograph pickup of 4000 ohms or more by plugging into the phono jacks provided on the rear of the radio chassis.

WAVE RANGE SELECTOR

The Wave Range Selector controls the type of service you intend to use.

"S" position - short wave reception.
"M" position - manual tuning of standard broadcast.
"A" position - automatic push-button tuning of your six favorite Standard Broadcast stations.
"W" position - television and accompanying sound.

HOW TO TUNE IN STATIONS MANUALLY

Turn wave band selector control (Fig. 1) to position "M". Rotate the dial until the station is heard. Make adjustments for best quality. Adjust Volume and Tone Control to taste.

HOW TO USE AUTOMATIC PUSH-BUTTON SELECTION

Turn wave band selector control (Fig. 1) to position "A". Press in button the markings of which correspond to desired station. At the time of installation, your dealer or technician will make adjustments for electric push-button tuning on the radio chassis for your six favorite Standard Broadcast stations. (Instructions for setting buttons are contained in the Radio Service Notes).

SHORT WAVE What you can hear on short waves: Short wave programs from distant countries can be heard readily on this set. In fact, because of the world-wide sale of ANDREA receivers, the ANDREA RADIO CORP. has taken the lead in perfecting high-efficiency short wave receivers for use throughout the world and in those parts of the globe where listeners are almost entirely dependent upon short wave programs.

ANDREA engineers have succeeded in overcoming many of the peculiarities of the short wave reception. However, there are some effects, due to natural phenomena, for which allowances must be made. For example, unusual fading may occur on one station while others are practically steady; or a station which has been heard consistently may disappear for a time. These and some other effects are normally associated with short wave reception and are not due to any fault in the receiver.

DAY & NIGHT RECEPTION Different broadcasting bands are used for different hours: By international agreement, certain channels have been assigned to short wave broadcast stations. The ANDREA receiver, in both Model EP12 and EP12X, is capable of bringing in programs transmitted on the 13, 16, 19, 25, 31, 49, 60, and 90 meter bands, as well as the new 120 meter band assigned to Central America. In addition, this set covers the bands used by amateur, commercial telephone, airplane and ship telephone transmitters.

The wave bands are easily identified on the tuning scale by the heavy lines marked 10M, 19M etc. Each channel is used for only a few hours a day. In general, the 13, 16 and 19 meter bands are used when daylight covers the area between the station and the listener. When there is both daylight and darkness in the path, the stations shift to the 26-33 meter bands. The 49 meter band is used when darkness covers the entire path. Seasonal variations affect the usefulness of these channels somewhat changing the reception period of these bands.

WORLD TIME The time is different in different parts of the world. Bear in mind the time differences when you tune for distant short wave stations. For example, when the people in California sit down at 8:00 P.M. to listen to their radio sets, Londoners are already in deep slumber, for their clocks show that it is 4:00 A.M. in England. However, many international programs now being broadcast are timed for
the especial benefit of people in other lands and take into account these time differences.

OFF-ON TONE

CONTROL & VOLUME CONTROL

STUDIO TONE

This ANDREA RADIO produces STUDIO TONE: Ever since the beginning of broadcasting ANDREA RADIO sets have been famous for their tone quality. Now, ANDREA RADIO engineers have achieved a coordination of cabinet acoustics, loudspeaker response, and amplifier design that gives true STUDIO TONE when this set is installed and operated correctly. A side-by-side comparison with other sets of similar price will demonstrate this clearly.

"CLIMATE SEALED" Special treatment preserves STUDIO TONE: Research conducted by ANDREA RADIO engineers in various parts of the world has shown conclusively that: "all is not static that spatters". Much of the noise on ordinary sets, usually attributed to static, is actually due to loss of sensitivity when damp weather causes a condensation of moisture on the coils, condensers and resistors. This condensation is generally responsible for breakdowns in transformers and filter condensers in these sets which do not provide adequate protection against severe climatic conditions.

To protect you from the trouble and expense caused by weather conditions the parts of this ANDREA receiver have been given the "Climate Sealed" treatment - the protective process developed by ANDREA RADIO engineers. Thus, you can depend upon this set to give perfect reception under all conditions on land or sea.

SERVICE

Tubes age so gradually that unless your instrument is checked over at least once a year you may not obtain the best performance that it is capable of giving without your knowing exactly why. Have your dealer give this instrument a check-up at least once a year, and call him if any difficulty is encountered. In the event that the picture tube in this receiver should fail to give you satisfactory service, notify the dealer immediately from whom you purchased this receiver.

TUBES AND CHASSIS

There are four chassis in the back of the cabinet which your dealer will show you if you wish. Looking at the back, the various parts are seen as follows: The picture tube is positioned in the center. The radio chassis - FP12 - is located in the cabinet front on the top shelf with the push-button adjustments accessible from the cabinet front. (See Fig.1). The television chassis - VF12 - sets vertically toward the cabinet rear. The cabinet bottom contains the deflection high voltage chassis and the power supply chassis. The fixed television controls located on the deflection chassis are accessible from the rear. (See Fig.2). The antenna terminal board is located on the top left. (See Fig.2). The two interlock safety switches on the side panels, making contact when the back is correctly secured in place, will also be pointed out by your dealer.

The tubes contained in the four chassis are as follows:

Power Chassis - FP12 - contains 2 - 5U4G tubes.

<table>
<thead>
<tr>
<th>RADIO CHASSIS</th>
<th>VIDEO CHASSIS</th>
<th>DEFLECTION CHASSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- FP12 -</td>
<td>- VF12 -</td>
<td>- DF12 -</td>
</tr>
<tr>
<td>2 - 6K7 tubes</td>
<td>2 - 1852 tubes</td>
<td>3 - 6N7 tubes</td>
</tr>
<tr>
<td>1 - 6G3 &quot;</td>
<td>5 - 1853 &quot;</td>
<td>1 - 2V3G &quot;</td>
</tr>
<tr>
<td>1 - 6L7 &quot;</td>
<td>1 - 6X7 &quot;</td>
<td>1 - 6Z5 &quot;</td>
</tr>
<tr>
<td>1 - 6G5 &quot;</td>
<td>2 - 8X6 &quot;</td>
<td>1 - 6L6 &quot;</td>
</tr>
<tr>
<td>2 - 6Y6C &quot;</td>
<td>1 - 6X7 &quot;</td>
<td>1 - 6L37 &quot;</td>
</tr>
<tr>
<td>1 - 6G8 &quot;</td>
<td>1 - 6L5 &quot;</td>
<td>1 - 5Y4G &quot;</td>
</tr>
</tbody>
</table>

Picture Tube - #1605F4 -

Charts showing the tube position for each chassis are located inside the cabinet.

Courtesy of Chuck Azzalina