8. OPERATIONAL DESCRIPTION - MODEL Axcera-LU100AL

8.1 General Description

The LU100AL is a complete 100-watt UHF solid-state, internally diplexed television translator. It operates at a nominal visual output power of 100 watts peak sync and an average aural output power of 10 watts, at an A/V ratio of 10 dB, 10% sound.

8.2 Technical Specifications

Type of Emissions:
- Visual 5M75C3F
- Aural 250KF3E

Frequency Range..... 470 MHz to 860 MHz (any 6-MHz channel)

Output Power
- Visual ..... 100 watts peak sync
- Aural ..... 10 watts average

Maximum Power Rating
- Visual ..... 100 watts peak visual
- Aural ..... 10 watts average aural

Power Consumption ..... 675 watts

8.3 Performance Specifications

Visual Performance

Operating Frequency Range ..... 470 MHz to 860 MHz

RF output - Nominal:
- Power ..... 100 watts peak sync
- Impedance ..... 50 ohms
- Connector ..... Type N

Visual Sideband Response:
- -1.25 MHz and below ..... -20B
- -0.75 to -0.5 MHz..... +0.5, -2.0dB
- -0.5 MHz to +3.58 MHz..... ±0.5 dB
- 3.58 MHz to 4.18 MHz..... +0.5, -1.0 dB

Variation of Frequency Response with Brightness..... ±0.5 dB
Differential Phase ..... ±3°
Incidental Phase Modulation..... ±3°
Differential Gain 5%
Low Frequency Linearity 5%
Intermodulation Products ..... -52 dB (red field)
Output Variation (Over 1 Frame) 2%
Regulation of Output..... 3%

Signal-to-Noise Ratio ..... 55 dB

2t K-Factor 2%
Harmonic Radiation ..... -60 dB
Spurious (>3 MHz from channel edge) ..... -50 dB
Carrier Frequency Stability ..... ±1000 Hz
Noise Figure w/Input Preamp ..... 3 dB (Max.)
Input Dynamic Range (no Preamp) ..... --60 to -15 dBm

Aural Performance

RF Output – Nominal
Power ..... 10 watts
Impedance ..... 50 ohms
Connector ..... Type N

Electrical Requirements

Power Line Voltage ..... 117/230 volts, 50/60 Hz
Power Consumption ..... 675 watts

Environmental

Maximum Altitude ..... 8,500 feet
Operational Temperature Range ..... 0°C to +50°C

Mechanical

Dimensions:
Width ..... 19 inches
Depth ..... 23 inches
Height ..... 8.75 inches
Weight ..... 45 lbs

8.4. System Overview

The LU100AL (1303268) is made up of the (2) trays listed in Table 8-1.

Table 8-1. LU100AL Major Trays and Assemblies

MAJOR ASSEMBLY DESIGNATOR	TRAY/ASSEMBLY NAME	DRAWING NUMBER
A1	Receiver	1265-1100
A2	UHF Exciter	1303268

The (A2) UHF Exciter can operate using a 45.75 MHz IF carrier from either the (A1) Receiver tray's output, or that from a Modulator tray. Both of these carriers must be diplexed with a 41.25 MHz aural carrier, at an A/V ratio not to exceed –10dB.

8.4.1 Receiver Tray

The RF Input to the Tray, (-61 dBm to -26 dBm in Level), is fed through J1 to the input 50Ω Filter or through J5 to the 75Ω input Filter, which are of a double tuned design that is adjusted to the desired Input UHF or VHF Channel Frequency. Note: If the input signal is greater then -25dBm, an attenuator should be used to limit the level to -25dBm. +12 VDC, for use by an (Optional) external Preamplifier Assembly, connects to the filter through F1 a 1 Amp Fuse. This +12 VDC is DC Multiplexed onto the input signal cable from the Preamplifier. DS1 a Red LED located on TB1 in the Tray will be lit if the +12 VDC is present on the input cable. If a Preamplifier is not used, F1 should be removed and DS1 should not be lit.

The signal is next amplified +12 dB to approximately the -49 to -4 dBm level by a low noise amplifier located on the Dual Stage Amplifier Board that is contained in (A8) the Dual Stage Amplifier Assembly. The board has approximately +13 dB or +26 dB of gain, depending on whether Jumper W1 on J5 is in place. The signal is then filtered in (A9) a Channel Filter and then applied back to (A8-A1) the Dual Stage Board where the same amplification takes place. Jumper W1 on J7, located on the Dual Stage Board, should be removed if the Receiver Input level is greater than -40dBm. The output is connected to (A10) the Downconverter Amplifier Assembly that contains (A10-A1) the Downconverter Amplifier Board The RF, at the -47 dBm to -2 dBm Level, connects to the "R" Input Jack of the Mixer Z1 located on the Downconverter Amplifier Board.

The Local Oscillator Signal is derived from a cut to channel crystal mounted in an oven that is factory set at 45° C. The Oscillator operates at 1/8 for UHF, 1/4 for VHF High Band or 1/2 for VHF Low Band of the desired local oscillator frequency. The crystal is mounted on (A4-A1) the Channel Oscillator Board, Dual Oven that is part of the Channel Oscillator Assembly. The oscillator circuitry is a modified Colpitts design operating in a separate oven set at 50° C. for improved stability.

The output of the Channel Oscillator is connected to the (A5-A1) the x8 Multiplier Board for UHF, the x4 Multiplier Board for VHF HB or the x2 Multiplier Board for VHF LB, which is located in (A5) the Multiplier Enclosure. The proper multiplier board takes the output of the Channel Oscillator (+3 dBm) and multiplies it eight, four or two times by a series of three, two or one x2 Broadband Doublers (2x2x2 = x8), which produces the L.O. signal on the desired frequency needed for the upconversion process. The signal is then amplified to the +16 dBm level. A sample of the multiplied L.O. Signal is fed to a detector circuit which lights the Green LED DS1 that indicates that the L.O. is present at the Output Jack J2 of the Multiplier Board. This Green LED is seen through a hole the lid of the Multiplier Assembly and is an indication, when lit, that there is a signal present at the output of the Multiplier Board. The L.O. signal is filtered in (A6) a L.O. Filter and then sent (+15 dBm) to J2 on (A10-A1) the Downconverter Amplifier Board. The L.O. Input to the Downconverter Amplifier Board is connected thru a 3 dB matching pad to the "L" Input of the Mixer (Z1) at a +12 dBm level.

The L.O. and the RF signals are mixed in the Mixer Stage of the Downconverter Amplifier Board to produce the desired IF difference frequency at -55 dBm to -10 dBm in level, depending on the RF Input Level. The Combined IF Signal is routed to (A11-A1) the IF Filter/ALC Board which is mounted in (A11) the IF Filter/ALC Enclosure . The IF Filter/ALC Board contains a Pin Diode Attenuator circuit which is part of the Automatic Level Control (ALC) that controls the level of the IF Signal to the two stage amplifier ICs U1 and U2.

The (Optional) (A11-A2) SAW Filter/Amplifier Board is also contained in the IF Filter/ALC Enclosure. The SAW Filter/Amplifier Board connects to J5 and J6 of the IF Filter/ALC Board if more attenuation of the Out Of Band products is needed. If the SAW Filter/Amplifier Board is not needed, a jumper connects the Combined IF from J5 to J6 on the IF Filter/ALC Board.

The Combined IF is then bandpass filtered to the needed 6 MHz IF bandwidth around the 41.25 MHz + 45.75 MHz Combined IF signal and amplified by U3 to the -41 dBm to +4 dBm Level before it is split. One output is detected by U4 for use as the ALC reference level to the Pin Diode Attenuator Circuit. The ALC comparator drives the Pin Diode Attenuator Circuit to maintain the desired output level, typically +2 dBm. The other split output connects to J2 the Combined IF Output of the board that is cabled to the IF Output Jack of the Tray at J4 (+2 dBm).

The AC input to the Tray is 117 VAC or 230 VAC and is directed thru Jack J2, of the (A1) Power Entry Module to the step down Toroid (A2). The Power Entry Module contains an On/Off Switch, a 4 Amp Slo-Blo Fuse and three MOVs which protect the Tray from transients or surges which may occur on the AC Input Lines. When the On/Off Switch is switched On, AC is applied to the (A2) Toroid. The Toroid steps down the voltage into two 16 VAC outputs which are fed to (A3) the +12V(3A)/-12V Power Supply Board The 16 VAC Inputs are connected to the two full wave bridge networks one for +12 VDC and one for -12 VDC. The output of the +12 VDC rectifier is fed to three 7812 IC regulators (U1, U2 and U3) and the output of the -12 VDC rectifier is fed to one 7912 IC regulator (U4). The ±12V Power Supply Board provides the voltage regulated and current limited +12 VDC and -12 VDC to the rest of the boards in the Tray.

8.4.2 Exciter Tray

The input of the Upconverter/Amplifier Tray is a modulated Internally Diplexed IF signal. This signal is connected to the input of the IF Processor Module.

8.4.2.1 IF Processor Module

The (A3) IF Processor Assembly contains the IF Processor Board (1301977). The IF Processor provides pre-correction to ensure broadcast quality output signal. The pre-correction consists of amplitude linearity correction, Incidental Carrier Phase Modulation (ICPM) correction and frequency response correction.

The IF Processor module is configured either for an analog or digital system. Pin 13C of the IF Processor module is grounded in analog systems and left not connected in digital systems. An IF Processor Interlock signal is used to report the presence of the IF Processor module to the Control Monitoring board. If the IF Processor interlock signal is not present, the Pioneer 100 Watt Translator/Exciter Driver RF output is Muted (turned off). If an analog IF Processor module is installed and the Modulation Present signal is not true, the Pioneer 100 Watt Translator / Exciter Driver output is Muted (turned off).

The Control & Monitoring/Power Supply module uses the IF Processor module for System output power control. Through the front panel display or a remote interface, an operator can set the translator's RF output power. The range of RF power adjustment is between 0% (full off) and 105% (full power plus). A front panel IF Processor module potentiometer sets the upper limit of RF power at 120%. The system's Control Monitoring board compares the RF Power Monitoring module RF power level with the desired level and uses the IF Power Control PWM line to correct for errors.

In digital systems, a digital level control (DLC) voltage is generated on the IF Processor module and sent to an external digital modulator (DT1C or DT2B). RF power control is implemented by changing the DLC voltage provided to the external digital modulator. The 'RF High' potentiometer sets the upper adjusted range of RF control circuit output to 120%.

The IF Processor module provides a reference ALC voltage to the system's Upconverter. When the ALC voltage decreases, the Upconverter automatically lowers the system output power through the AGC circuits.

The IF Processor module has a front panel switch to select Auto or Manual ALC. When Manual ALC is selected, the reference ALC voltage is set by a front panel potentiometer. In this condition, the RF power level control circuit is removed from use. When the ALC select switch is changed to Auto, the RF power level control circuit will start at low power and increase the RF output until the desired output power is attained.

The IF Processor module Modulation Present signal is monitored. If the modulation level is too low or non-existent, a Modulation Present fault is reported to the Control Monitoring board. When the controller detects this fault, it can be set to Automatically Mute the translator or in Manual mode the translator will continue to operate at 25% output.

The IF Processor module Input Signal level is monitored. If the signal level is too low or non-existent, an Input fault is reported on the Control Monitoring board. When the IF Processor board detects an Input Signal fault it automatically Mutes the translator. The system controller does not Mute on an IF Processor Input fault.

8.4.2.2 L.O. / Upconverter Module

The (A5) LO/Upconverter Module Assembly contains a front panel LED display board (1303033), a UHF Filter (1007-1101), a UHF Generator Board (1585-1265) and a LO/Upconverter Assembly (1303039). The LO/Upconverter Assembly contains the LO/Upconverter Board (1302132).

The Pioneer Upconverter converts an IF input signal to a RF output signal on the desired channel frequency using a high stability oven controlled oscillator with very low phase noise and an Automatic Level Control (ALC) for stable output signal level.

Several control voltages are used for translator power control. Automatic gain control (AGC) circuits set the RF output level of the translator system.

AGC #1 is provided by the 50 Watt Translator/Exciter Driver Power Amplifier module. This voltage is used by the Upconverter to maintain a constant RF output level at the Power Amplifier module output. If this voltage exceeds 0.9 VDC, the system is in an over-drive condition. The 0.9 VDC over-driver threshold is set by a front panel Upconverter module potentiometer. When an over-drive condition is detected, the Upconverter module reduces its RF output level. For values less than 0.9 VDC, the Upconverter uses the AGC #1 voltage for automatic gain control by setting it's RF output to maintain AGC #1 equal to the AGC voltage set by another front panel potentiometer. When the Upconverter is set for manual gain, the RF output of the Upconverter is set by the front panel AGC potentiometer. In manual gain operation, the AGC #1 feedback

voltage from the PA is not used to adjust the RF level unless an over-drive condition is detected.

AGC #2 is provided by each of the optional external amplifier modules. Diodes are used in each of the external amplifier forward power circuits to capture the highest detected sample voltage. This voltage is used by the Upconverter to maintain a constant RF output of the system. As with AGC #1, the Upconverter module reduces its RF output level if AGC #2 is too high. AGC #1 and ACG #2 are diode ORed together in the Upconverter gain circuit. Both AGC voltages are first reduced by an on-board potentiometer before being amplified. If an over-drive condition does not exist, the higher of the two AGC voltages is used to control the Upconverter gain circuit.

An AFC Voltage is generated to control the VCXO of the UHF Generator portion of the Upconverter module. The typical AFC voltage is 1.5 VDC but it can be as high as +5 VDC.

The Upconverter can operate on either it's internal 10 MHz source or on a 10 MHz external reference signal. When an external 10 MHz source is present on J10, it is automatically selected. An external reference present signal is provided to the controller for display purposes. The selected 10 MHz signal from the Upconverter is buffered then sent to the backplane on two ports. One port is sent to the Modulator module, if present, and the other is routed to a BNC connect or (J11) on the backplane for a system 10 MHz output signal.

A National Semiconductor frequency synthesizer IC is used in the frequency conversion of the IF signal to a RF signal. The frequency synthesizer IC uses a 10MHz reference frequency for signal conversion. Typically the IF input frequency is 45.75 MHz for analog system and 44 MHz for DTV. To obtain different output RF frequencies, the synthesizer IC is serial programmed by the Control Monitoring board. The part is programmed to use a 5 kHz phase detection frequency. With a 10 MHz input signal, the R counter is set to 2000. With these settings the N counter is set to the desired LO frequency in kHz / 5 kHz. The maximum LO frequency setting with these parameters is 1310.715 MHz.

Example:

For a Frequency RF Out = 517.125 MHz, N = 517125 kHz / 5 kHz = 103425

An Upconverter PLL Lock indicator is used to insure that the frequency control circuits are operating properly. When the Upconverter PLL is locked, the frequency synthesizer IC is programmed and the Power Amplifier module(s) can be enabled.

The RF output of the LO/Upconverter Module is at J23 on the rear chassis

8.4.2.3 Control & Monitoring / Power Supply Module

The (A4) Control & Monitoring/Power Supply Assembly is made up of a Control Board (1302021), a Power Protection Board (1302837) and a Switch Board (1527-1406). The Assembly also contains a switching power supply that provides ±12 VDC to the rest of the modules in the chassis and +32 VDC to the Power Amplifier module.

The Assembly provides all translator control and monitoring functions. The Front panel LCD allows monitoring of system parameters, including forward and reflected power, transistor currents, module temperatures and power supply voltages.

8.4.2.4 Power Amplifier Module

The (A6) Power Amplifier Module Assembly is made up of a Coupler Board Assembly (1301949), an Amplifier Control Board (1301962), a 1 Watt Module Assembly (1302891), a TFS 40W UHF Module (1206693) and a RF Module Pallet, Philips (1300116).

The Power Amplifier Module contains Broadband LDMOS amplifiers that cover the entire UHF band with no tuning required. They amplify the RF to the 10W to 50W output power level of the translator.

The Power Amplifier of the Translator/Exciter Driver is used to amplify the RF output of the Upconverter module. A cable, located on the rear chassis, connects the RF output from the LO/Upconverter at J23 to J24 the RF input to the PA Assembly. This module contains RF monitoring circuitry for both an analog and a digital system. Control and monitoring lines to the Power Amplifier module are routed through the floating blind-mate connector of the Control & Monitoring/Power Supply module.

The 50 Watt Translator/Exciter Driver Power Amplifier module and any External Amplifier modules contain the same control and monitoring board. This board monitors RF output power, RF reflected power, the current draw of amplifier sections, the supply voltage, and the temperature of the PA heat sink.

The RF power detector circuit outputs vary with operating frequency. These circuits must be calibrated at their intended operating frequency. Front panel adjustment potentiometers are used to calibrate the following:

Table 1: Power Amplifier Calibration Adjustments in Analog Systems

R201 Reflected Power Cal
R202 Visual / Forward Power Cal
R203 Aural Power Cal
R204 Visual Offset Zero
R205 Aural Null

In analog systems, the Aural power of an Exciter Driver Power Amplifier and the Aural power of any external amplifier will not be reported by the system Control Monitoring module. Additionally the Visual power of these amplifiers, is reported as Forward Power just like in digital systems. In analog systems, aural and visual power will only be reported for the final system RF output.

In digital systems, the Forward power of an Exciter Driver Power Amplifier and the Forward power of any external amplifier, is reported by the system Control Monitoring module.

If the Control Monitoring module is monitoring a 5-50 Watt Translator, system power is measured in the Power Amplifier module. The wired connections are transferred through the power supply connector to the backplane board on a five position header. All four positions of control board switch SW1 must be set on to route these lines as the

system's RF power signals. In systems of output power greater than 50 Watts, system power is monitored by an external module that is connected to TB31 and control board SW1 switches must be set off.

The Forward Power of the Translator/Exciter Driver Power Amplifier module is routed to the Upconverter module as AGC #1. A system over-drive condition is detected when this value rises above 0.9 VDC. When an over-drive condition is detected, the Upconverter module reduces its RF output level. For values less than 0.9 VDC, the Upconverter uses this voltage for automatic gain.

8.5 Control and Status

8.5.1 Receiver Tray

There are no external Control and Status indicators or switches for the Receiver Tray.

Table 8-2. Receiver Tray samples

CONNECTOR	FUNCTION
J6 - BNC	Oscillator Sample (front panel)
J7 - BNC	IF Sample (front panel)

8.5.2 Exciter Tray

Table 8-3. IF Processor Front Panel Switch

SWITCH	FUNCTION
MAN/AUTO ALC	When Manual ALC is selected, the reference ALC voltage is set by the ALC Gain front panel potentiometer. When Auto ALC is selected, the IF level control circuit will automatically increase the IF output until the desired output power is attained.

Table 8-4. IF Processor Front Panel Status Indicators

LED	FUNCTION
INPUT FAULT (Red)	When lit it indicates that there is a loss of the IF Input signal to the IF Processor. Translator can be set to Mute on an IF Input Fault.
ALC Fault (Red)	When lit it indicates that the required gain to produce the desired output power level has exceeded the operational range of the ALC circuit. The LED will also be lit when ALC is in Manual.
MUTE (Red)	When lit it indicates that the IF input signal is cut back but the enable to the Power Supply is present and the +32 VDC remains on.

Table 8-5. IF Processor Front Panel Control Adjustments

POTENTIOMETERS	DESCRIPTION
FREQUENCY RESPONSE EQUALIZER	These three variable resistors, R103, R106 & R274, adjust the depth of gain for the three stages of frequency response correction.
ALC GAIN	Adjusts the gain of the translator when the translator is in the Auto ALC position.
MAN GAIN	Adjusts the gain of the translator when the translator is in the Manual ALC position.
LINEARITY CORRECTION	These three variable resistors adjust the threshold cut in for the three stages of linearity pre-correction. R211 and R216, the top two pots, are adjusted to correct for in phase amplitude distortions. R 231, the bottom pot, is adjusted to correct for quadrature phase distortions.

Table 8-6. IF Processor Front Panel Sample

SMA CONNECTOR	DESCRIPTION
IF SAMPLE	Sample of the pre-corrected IF output of the IF Processor

Table 8-7. LO/Upconverter Front Panel Switch

SWITCH	FUNCTION
MAN/AUTO AGC	When Manual AGC is selected, the reference AGC voltage is set by the AGC Manual Gain front panel potentiometer. When Auto AGC is selected, the RF power level control circuit will automatically increase the RF output until the desired output power is attained.

Table 8-8. LO/Upconverter Front Panel Status Indicator

LED	FUNCTION
AGC CUTBACK (Red)	When lit it indicates that the required gain to produce the desired output power level has exceeded the level set by the AGC Cutback (Override) adjust. Translator will cut back power to 25%

Table 8-9. LO/Upconverter Front Panel Control Adjustments

POTENTIOMETERS	DESCRIPTION
MAN GAIN ADJ	Adjusts the gain of the translator when the translator is in the Manual AGC position.
AGC CUTBACK ADJ (AGC OVERRIDE)	Adjusts the point at which the translator will cut back in power when the Translator is in the Auto AGC position.

Table 8-10. LO/Upconverter Front Panel Samples

SMA CONNECTOR	DESCRIPTION
LO SAMPLE	Sample of the LO signal to the Upconverter as generated by the UHF Generator Board.

RF SAMPLE	Sample of the On Channel RF Output of the Upconverter

Table 8-11. Controller/Power Supply Display

DISPLAY	FUNCTION
LCD	A 4 x 20 display providing a four-line readout of the internal functions, external inputs, and status. See Chapter 3, Controller/Power Supply Display Screens, for a listing of displays.

Table 8-12. Controller/Power Supply Status Indicator

LED	FUNCTION
OPERATE (green)	When lit it indicates that the translator is in the Operate Mode. If translator is Muted the Operate LED will stay lit, the translator will remain in Operate, until the input signal is returned.
FAULT (red or green)	Red indicates that a problem has occurred in the translator. The translator will be Muted or placed in Standby until the problem is corrected.
DC OK (red or green)	Green indicates that the switchable fuse protected DC outputs that connect to the modules in the translator are OK.

Table 8-13. Controller/Power Supply Control Adjustments

POTENTIOMETERS	DESCRIPTION
DISPLAY CONTRAST	Adjusts the contrast of the display for desired viewing of screen.

Table 8-14. Power Amplifier Status Indicator

LED	FUNCTION
ENABLED (Green)	When lit Green, it indicates that the PA is in the Operate Mode. If a Mute occurs, the PA will remain Enabled, until the input signal is returned.
DC OK (Green)	When lit Green, it indicates that the fuse protected DC inputs to the PA module are OK.
TEMP (GREEN)	When lit Green, it indicates that the temperature of the heatsink assembly in the module is below 78°C.
MOD OK (Green)	When lit Green, it indicates that the PA Module is operating and has no faults.

Table 8-15. Power Amplifier Control Adjustments

POTENTIOMETERS	DESCRIPTION
RFL CAL	Adjusts the gain of the Reflected Power monitoring circuit
VISUAL CAL	Adjusts the gain of the Visual / Forward Power monitoring circuit
AURAL CAL	Adjusts the gain of the Aural Power monitoring circuit
VISUAL ZERO	Adjusts the offset of the Forward Power monitoring circuit
AURAL NULL	Adjusts the offset of the Forward Power monitoring circuit based on the Aural signal level..

Table 8-16. Power Amplifier Sample

DISPLAY	FUNCTION
FWD SAMPLE	RF sample of the amplified signal being sent out the module on J25.

8.6 Remote Interface Connections

8.6.1 Remote Interface Connections (Receiver)

Port	TYPE	Function	Ohm
J1	N	RF Input	50
J2	IEC	AC Input	N/A
J3	15-pin D	Remote Connections	N/A
J4	BNC	IF Output	50

8.6.2 Remote Interface Connections (Exciter)

Port	Type	Function	Ohm
J1	IEC	AC Input	N/A
TB02	Term	Base Band Audio Input	600
J3	BNC	Composite Audio Input	75
J4	BNC	SAP / PRO Audio Input	50
J5	BNC	CW IF Input	50
J6	BNC	Modulated IF Input	50
J7	BNC	Video Input (Isolated)	75
J8	BNC	Visual IF Loop-Thru Output	50
J9	BNC	Aural IF Loop-Thru Output	50
J10	BNC	10 MHz Reference Input	50
J11	BNC	10 MHz Reference Output	50
J17	BNC	Video Loop-Thru (Isolated)	75
J18	BNC	Visual IF Loop-Thru Input	50
J19	BNC	Aural IF Loop-Thru Input	50
J23	BNC	Upconverter RF Output	50
J24	BNC	Power Amplifier RF Input	50
J25	N	Power Amplifier RF Output	50
TB30	Term	Remote Control & Monitoring	
TB31	Term	Remote Control & Monitoring	
J32	RJ-45	SCADA (Input / Loop-Thru)	CAT5
J33	RJ-45	SCADA (Input / Loop-Thru)	CAT5
J34	RJ-45	System RS-485 Serial	CAT5

8.7 AC Input

8.7.1 Receiver Tray

The AC input to the Receiver Tray is 117 VAC or 230 VAC and is directed thru Jack J2, of the (A1) Power Entry Module (1265-1104), to the step down Toroid (A2). The Power Entry Module contains an On/Off Switch, a 4 Amp Slo-Blo Fuse and three MOVs, which protect the Tray from transients or surges, which may occur on the AC Input Lines.

8.7.2 Exciter Tray

The AC input to the Upconverter Tray is 117 VAC or 230 VAC (factory selectable). The AC input is applied to the tray through Jack J1. MOV's are provided to protect the Tray from transients or surges, which may occur on the AC Input Lines.