

Chapter 2 System Description

The 837B is a complete 4-6 kW UHF Solid State Internally Diplexed Television Translator which operates at a nominal Visual Output Power of 4000 - 6000 Watts Peak of Sync and Average Aural Output Power of 400 - 600 Watts, at an A/V Ratio of 10 dB, 10 % Sound or 200 - 300 Watts at 13 dB, 5 % Sound. The 837B is made up of three Cabinets, a UHF Single Exciter Cabinet and two Amplifier Array Cabinets.

2.1 System Overview

The standard 837B is functionally comprised of (A1) a Single UHF Exciter

Assembly, (A2 & A3) two 2-3 kW Amplifier Array Assemblies, (A4) a Hybrid Combiner Assembly and (A11) an Output Coupler Assembly. A sample is taken from the Hybrid Combiner and connected to (A7) a Directional Coupler.

2.1.1 (A1) UHF Exciter Assembly (1278-1400; Appendix C)

The (A1) UHF Exciter Assembly is made up of the trays and assemblies listed in Table 2-1.

Table 2-1. UHF Exciter Assembly Trays and Assemblies

MAJOR ASSEMBLY DESIGNATOR	TRAY/ASSEMBLY NAME	PART NUMBER
A1	UHF Exciter, M/N	1142458
A3	2-way splitter assembly	ZSFC-2-2SMA
A4	Phase/Gain Tray	1245-1200
A5	Phase/Gain Tray	1245-1200
A6	Metering Panel	1136811
A7	UHF receiver tray	1265-1100
A8	AC Distribution Assembly	1245-1500
A9	Remote Interface Assembly	1245-1801

The UHF Exciter Tray operates using either the IF Output from the (A7) UHF Receiver Tray connected to J1 on the ALC Board (1265-1305) or the Combined IF Output generated from the (Optional) Baseband Audio and Video Inputs connected to J32 on the ALC Board. The two IF Outputs are connected to the IF Relays K3 and K4, located on the ALC Board and by applying or removing a Jumper on Jack J8 Pins 10 & 11 located on (A9) the Remote Interface Assembly (1245-1801) the IF Output is selected. To select the output from the Modulator, J8-10 and 11, must be connected together. To select the output from the Receiver Tray, J8-10 and 11, must not be connected together.

The UHF Receiver Tray (1265-1100) takes the received RF On Channel Frequency and generates a 45.75 MHz + 41.25 MHz Combined IF Output. The Combined IF Output of the Receiver Tray connects to J6 on the rear of the (A1) UHF Exciter that is wired to J1 on the ALC Board. With Receiver selected, no connection between J8-10 and 11 on the Remote Interface Assembly, the IF Output from the Receiver Tray connects through the Relays to the rest of the ALC Board.

The (Optional) Baseband Audio, from TB1 or J3, and Video, from J1, connect to the UHF Exciter which produces a Combined IF Output that connects to J32 on the ALC Board.

To select the output from the Modulator, J8-10 and J8-11, must be connected together.

The Exciter RF Output of the (A1) UHF Exciter at J15 (+10 to +20 dBm) is connected to the S Input on (A3) the Splitter. The Exciter Output is split two ways by A3 with RF Output #1 connected to the input of the (A5) Variable Phase/Gain Tray (1245-1200) and RF Output #2 connected to the input of the (A4) Variable Phase/Gain Tray (1245-1200).

The Variable Phase/Gain Tray sets the phase and gain adjustments of the RF to provide maximum output when the outputs of the two Amplifier Arrays are combined. The output of the (A4) Variable Phase/Gain Tray (+16 dBm) connects to (A2) the Side A 2-3 kW Amplifier Array Assembly. The output of the (A5) Variable Phase/Gain Tray (+16 dBm) connects to (A3) the Side B 2-3 kW Amplifier Array Assembly.

The 208/240 VAC Input to the UHF Exciter Assembly connects to (A8) the AC Distribution Assembly, UHF Exciter Assembly (1245-1500) located in the right, center rear of the Cabinet. The Assembly contains the Terminal Block (TB1) to which the 208/240 VAC connects. Line 1 to TB1-1A, Line 2 to TB1-3A and Safety Ground to TB1-2A. The AC Distribution Assembly contains (CB1) the Main Circuit Breaker (20 Amps) that supplies the AC to the rest of the Single Exciter Assembly. The output of CB1 has three MOVs, VR1, VR2 and VR3, connected to it, VR1 from Line 1 to ground, VR3 from Line 2 to ground and VR2 connected across the two lines. The AC output of CB1 is wired to A1 and A2

that are IEC Outlet Strips. The (A1) Exciter and the (A4) Variable Phase/Gain Tray plug into the (A1) IEC Outlet Strip. The (A5) Variable Phase/Gain Tray, the (A6) Metering Panel and the (A7) Receiver Tray plug into the (A2) IEC Outlet Strip.

When the Circuit Breaker CB1 on the Single UHF Exciter Assembly is switched On, +12 VDC from the Exciter is connected to A9-TB1 in each of the Amplifier Array Cabinets. The +12 VDC is split 4-6 Ways on the terminal block A9-TB1 and connected to each of the UHF Amplifier Trays at J3-7. The +12 VDC is used for operation of the LED Status Indicators in the UHF Amplifier Tray. The +12 VDC is also connected to J4-20 and then to A9-TB2 for the (Optional) External Exhaust Kit in each Amplifier Array. When the UHF Exciter Tray, Translator, is switched to Operate, an Enable is applied to each of the 2-3 kW Amplifier Arrays at J4-15 that connects to A9-TB2. The Enable is split 4-6 Ways on the terminal block A9-TB2 and connected to each of the UHF Amplifier Trays at J3-9. This Enable turns on the +32 VDC Power Supply in each Amplifier Tray. Also a Fan Enable is connected to J4-19 and then to A9-TB2 that connects to the (Optional) External Exhaust fan mounted on the roof of each Amplifier Array Cabinet, turning it On.

2.1.2 (A2 & A3) 2-3 kW Amplifier Arrays (1278-1300; Appendix C)

The (A2 & A3) 2-3-kW Amplifier Arrays are identical and are made up of the trays and assemblies listed in Table 2-2.

Table 2-2. Amplifier Array Trays and Assemblies

MAJOR ASSEMBLY DESIGNATOR	TRAY/ASSEMBLY NAME	PART NUMBER
A1, A2, A3, A4, A5(5kW) & A6(6kW)	UHF Amplifier Trays, LDMOS	(Low Band) 1301560, (Mid Band) 1301561, Or (High Band) 1301562
A7	4, 5 or 6 Way Combiner	Various
A8	Output Coupler Assembly	1016-1043
A12	Reject Load Assembly	1278-1312
A9-A1	8-Way Splitter	1245-1701 (ZFSC-8-43)
A10	AC Distribution Assembly	Three Phase 1278-1100 Or Single Phase 1278-1200
A11	Interface Assembly	1131532

The (A2 & A3) Amplifier Array Assemblies each contain (A9-A1) an 8 Way Splitter (ZFSC-8-43), four, five or six {A1, A2, A3, A4, A5(5kW) & A6(6kW)} UHF Amplifier Trays, LDMOS, (A7) a 4, 5 or 6 Way Combiner, (A12) a Reject Load Assembly, (A8) an Output Coupler and (A10) an AC Distribution Assembly, Three Phase (1278-1100) or Single Phase (1276-1200). The reject output from the Combiner connects to (A12) a Reject Load Assembly, which contains (A12-A2) a Combiner Reject Load Board (1278-1311) in a 5 or 6 kW configuration.

The RF Input (+16 dBm) from the Variable Phase/Gain Tray connects to J1 on (A11) the Interface Panel located in the Amplifier Array Assembly. The RF is connected to the COM Input of (A9-A1) the 8 Way Splitter that splits it eight ways. The outputs (+6 dBm) connected to J1, the RF Input Jack on each of the UHF Amplifier Trays or are terminated with 50Ω. Each of the UHF Amplifier Trays amplify the RF signals to the power needed to produce the total output power for the Translator, with a maximum of 600 Watts per Tray. The outputs (+57.5 to +60 dBm) of the UHF Amplifier Trays, LDMOS are combined in the (A7) 4, 5 or 6 Way Combiner assembly. The output of the combiner is cabled to (A8) the Output Coupler Assembly that supplies a Forward and a Reflected Power Sample of the output from the Amplifier Assembly to the Metering Panel in the Single

Exciter Assembly. The reject output of the Combiner, in a 5kW or 6kW configuration, connects to (A12) the Reject Load Assembly that dissipates any reject due to miss-tuning or a malfunction in any of the Amplifier Trays. The RF Output of the Coupler at J2 (+63.5 to +65.2 dBm) is the RF output of the 2-3 kW Amplifier Array.

In each UHF Amplifier Tray, a Forward Power Sample and a Reflected Power Sample, from the Combiner Board, are connected to the Dual Peak Detector Board, Single Supply. The Dual Peak Detector provides peak detected forward samples to the Amplifier Control Board that supplies the samples to the front panel meter of the UHF Amplifier Tray. Before exiting each UHF Amplifier Tray the RF is fed through a Circulator for protection of the Tray from high VSWR conditions. The Reject Port of the Circulator provides a Reject Sample to the Combiner Board which supplies the Reflected Sample to the Dual Peak Detector Board, Single Supply located in the Tray that connects to the front panel meter for monitoring purposes.

The 208/240 VAC Input to each Amplifier Array Assembly connects to (A10) the AC Distribution Assembly located on the right side, center rear of the Cabinet. The Assembly contains the Terminal Block (TB1) to which the 208/240 Three Phase or Single phase connects.

Three phase connects, Line 1 to TB1-1A, Line 2 to TB1-2A, Line 3 to TB1-3A and Safety Ground to TB1-4A.

Single phase connects, Line 1 to TB1-1A, Line 2 to TB1-3A and Safety Ground to TB1-4A.

The AC Distribution Panel contains nine Circuit Breakers that supply the AC to the rest of the Amplifier Assembly. The Input AC from TB1B is connected to (CB1) the Main AC Circuit Breaker (55 Amps three phase or 100 Amps single phase) that distributes the 208/240 VAC to the other eight circuit breakers. The output of CB1 has three MOVs, VR4 from Line 1 to ground, VR6 from Line 2 to Ground and VR3 connected across the two lines for surge and over-voltage protection. The switched Input AC is wired through the Circuit Breakers, CB2-CB7, via AC Line Cords to the six UHF Amplifier Trays, LDMOS mounted in each Amplifier Array Cabinet. CB2 is a 20 Amp Circuit Breaker that supplies the AC voltage to the (A1) UHF Amplifier Tray. CB3 is a 20 Amp Circuit Breaker that supplies the AC voltage to the (A2) UHF Amplifier Tray. CB4 is a 20 Amp Circuit Breaker that supplies the AC voltage to the (A3) UHF Amplifier Tray. CB5 is a 20 Amp Circuit Breaker that supplies the AC voltage to the (A4) UHF Amplifier Tray. In a 5kW configuration, CB6 is a 20 Amp Circuit Breaker that supplies the AC voltage to the (A5) UHF Amplifier Tray. In a 6 kW configuration, CB7 is a 20 Amp Circuit Breaker that supplies the AC voltage to the (A6) UHF Amplifier Tray. In 5 and 6 kW configurations, CB8 and CB9 are 3 Amp Circuit Breakers that supply AC to the two cooling fans mounted in the Reject Load Assembly in the Amplifier Array Assembly.

2.1.2.1 (A13) (Optional) External Exhaust Kit (1061320)

Each of the 2-3 kW Amplifier Array Assemblies may contain the (Optional) (A13) External Exhaust Kit mounted on

the roof of the cabinets. This kit provides greater cooling by venting the hot air outside the Translator room using a blower fan. +12 VDC is applied to TB1-4A in the Exhaust enclosure when the UHF Exciter circuit breaker is switched On. An Enable is connected to TB1-3A when the UHF Exciter, Translator, is switched to Operate. The Enable energizes the Isolation Relay that applies the 120 VAC to the fan that will operate.

2.1.3 Translator Output Assemblies

The outputs of the (A2 & A3) 2-3 kW Amplifier Assemblies (+63.5 to +65.2 dBm) connect through (A5 or A6) 1-5/8" to 3-1/8" Adapters to (A4) a Hybrid Combiner. The combiner combines the output from each Amplifier Assembly into a single output. The Reject Output of the Hybrid Combiner is connected through (A12) a 1-5/8" to 3-1/8" Adapter to (A7) a Directional Coupler (1016-1043) that provides a Reject Sample from J3 to the Metering Panel located in the UHF Exciter Assembly for monitoring purposes. The output of the Directional Coupler connects to (A8) a 2500 Watt Reject Load which dissipates any reject due to problems in one of the Amplifier Arrays. Mounted on the 2500 Watt Load is (A8-A1) a Thermal Switch that connects to the Overtemperature Fault circuit located on the Transmitter Control Board in the UHF Exciter Tray. If the temperature of the load reaches 155°F. the switch closes and causes an Overtemperature Fault to occur which shuts down the Translator.

The output of the Hybrid Combiner at J3 is fed through 3-1/8" hard line to (A9) a Bandpass Filter, (A10) an Output Trap Filter Assembly, then to (A11) the Output Coupler Assembly and finally to the Antenna for your System. The Bandpass Filter and Trap Filter are tuned to provide high out of band rejection of unwanted generated products. The filtered signal is connected to (A11) an Output Coupler Assembly that provides a Combined Forward and a Combined Reflected Power

Sample to the Metering Panel located in the Single UHF Exciter Assembly. The Forward Sample is processed to provide peak detected Visual and Aural Power Output Samples to the front panel Meter of the Metering Panel. The Reflected Power Sample is also peak detected and wired to the front panel Meter. A Sample of the RF Output, for test purposes can be taken from J5 on the Coupler, but a 20 dB Attenuator must be connected to J6 for the Sample port to operate. An appropriate attenuator must be connected to J5 to protect any test equipment connected to it.

2.2 Control and Status

The Control and Status of the Translator are provided by the Meter indications on the Metering Panel and the Variable Phase/Gain Trays. There are also Control, Status and LED Indications located on the front panel of the UHF Exciter Tray.

The switches and LED indicators, which are mounted so that the switches and LEDs are operated or viewed from the front Panel of the UHF Exciter, are part of the Transmitter Control Board (1061195). On the UHF Exciter Tray, switch (S1) is an Operate/Standby Switch that provides the Operate Command (Enable), when in Operate, to the each of the Amplifier Arrays. The

Enable to each Amplifier Array Assembly at J4-15 & 16 is split 4, 5 or 6 ways on the terminal block A9-TB2, which are then applied to each of the UHF Amplifier Trays at J3-9. The Enable is needed to turn on the Switching Power Supplies located in each of the UHF Amplifier Trays.

When the UHF Exciter is in Operate, the Green LED (DS2) is On and when in Standby the Amber LED (DS1) is On.

Note: If the Translator does not switch to Operate when S1 is switched to Operate, check that a dummy plug, with a Jumper between Pins 1 & 2, is connected to Jack J7 located on (A9) the Remote Interface Assembly in the UHF Exciter Assembly. This Jumper provides the Interlock needed for the operation of the Translator. If the Interlock is present, the Green LED (DS5), located on the Transmitter Control Board, should be lit.

Operation of the Translator is controlled by the front panel switches located on the UHF Exciter Tray. During Normal operation of the Translator, Switch S2 should be in the Auto position. The front panel of the UHF Exciter also has LEDs that indicate a Video Fault (Loss), Red LED (DS9) and a VSWR Cutback, Amber LED (DS7).

2.2.1 (A1) UHF Exciter Tray (1142458; Appendix C)

Table 2-3. UHF Exciter Tray Meters

METER	FUNCTION	
Meter (A1-A18)	This meter reads power in terms of a percentage of the calibrated output power level on the upper scale. The voltage level or frequency level is read on one of the bottom two scales. A full-scale reading on the top scale is 120%. The meter also reads % Aural Power, % Exciter Power, % Reflected Power, audio levels, video levels and the ALC voltage.	
	With Switch S3 in Position	Display
	Switch S3, Meter	Selects the desired ALC voltage reading, % Exciter Power, % Reflected Power, % Visual Power, % Aural Power, video level, or audio level
	Audio (0 to 100 kHz)	Reads the audio level, ± 25 kHz balanced or ± 75 kHz composite, on the 0 to 10 scale. Will indicate baseband audio, if it is connected to the Translator, even with the video +4.5-MHz SCA input selected.
	ALC (0 to 10 volts)	Reads the ALC voltage level, .8 VDC, on the 0 to 10 scale (full scale=1 volt)
	% Exciter (0 to 100)	Reads the % Exciter Output Power Level needed to attain 100% output of the Translator on the top scale
	% Aural Power (0 to 100)	Reads the % Aural Output Power of the Translator, 100%= watts for 10 dB A/V ratio, on the top scale
	% Visual Power (0 to 100)	Reads the % Visual Output Power of the Translator, 100%= watts peak of sync, on the top scale
	% Reflected (0 to 100)	Reads the % Reflected Output Power, <5%, on the top scale
	Video (0 to 100 IRE)	Reads the video level, 1 volt at peak white, on the 0 to 10 scale

Table 2-4. UHF Exciter Tray Switches

SWITCH	FUNCTION
Translator S1 Operate/Standby	The momentary switch S1 applies a ground to K1, a latching relay on the transmitter control board. K1 will switch either to Operate or to Standby depending on which direction S1 is pushed. When switched to Operate, the low, enable commands are applied to the UHF amplifier trays. These enables will turn on the UHF amplifier trays. The opposite occurs when the switch is turned to Standby.
Mode Select S2 Auto/Manual	The momentary switch S2 applies a ground to K2, a latching relay on the transmitter control board. K2 will switch the Translator to Automatic or Manual depending on which direction S2 is pushed. In Automatic, the video fault command from the ALC board will control the operation of the Translator. The Translator will switch to Standby, after a slight delay, if the input video is lost and will switch back to Operate, quickly, when the video is restored. In Manual, the Translator is controlled by the operator using the front panel Operate/Standby switch or by remote control.
Power Adjust R1	The 5-k Ω pot A20 sets the ALC level on the ALC board to set the output power of the translator.

Table 2-5. UHF Exciter Tray Fault Indicators

INDICATOR	DESCRIPTION
Video Loss (DS9 Red)	Indicates that the input video to the translator has been lost. The fault is generated on the ALC board in the UHF exciter tray.
VSWR Cutback (DS7 Amber)	Indicates that the reflected power level of the translator has increased above 20%; this automatically cuts back the output power level to 20%. The fault is generated on the transmitter control board in the UHF exciter tray.

Table 2-6. UHF Exciter Tray Samples

SAMPLE	DESCRIPTION
f(IF)	A sample of the visual IF that is taken from the sample jack on the IF carrier oven oscillator board
f(IC)	A sample of the intercarrier signal that is taken from the sample jack on the aural IF synthesizer board
f(s)	A sample of the channel oscillator output that is taken from the sample jack of the channel oscillator assembly
Exciter O/P	An output power sample of the exciter that is taken from the UHF upconverter board
Translator O/P	A forward power sample of the translator that is taken from the visual/aural metering board

2.2.2 {A1, A2, A3, A4, A5(5kW) & A6(6kW)} UHF Amplifier Trays, LDMOS (1301560, low band/1301561, mid band/1301562, high band; Appendix C)

Table 2-7. UHF Amplifier Tray, LDMOS Meters

METER	FUNCTION	
Meter (A1 thru A6 - A9)	This meter reads power in terms of a percent of the calibrated power output value. A full-scale reading is 100%, which is equivalent to the full-rated 600 watts peak of sync visual + aural output power. The meter also reads the % Reflected Power, power supply voltage levels, and AGC voltage levels.	
	With Switch S2 in Position	Display
	Switch S2, Meter	Selects the desired % power or the voltage reading
	% Output Pwr	Reads the % Output Power of the tray (100%=600 watts peak of sync visual + aural) on the top scale
	% Refl (Reflected)	Reads the % Reflected Output Power of the tray (<10% with all amplifier trays operating) as measured on the top scale
	Power Supply	Reads the power supply voltage > +30 VDC(+32 VDC) on the middle scale
	AGC Voltage	Reads the AGC voltage level (+1 VDC to +3 VDC) on the bottom scale

Table 2-8. UHF Amplifier Tray, LDMOS Status Indicators

INDICATOR	DESCRIPTION
Enable (DS4 Green)	Indicates that an enable, Operate command, is applied to the UHF amplifier tray from the UHF exciter tray
Overdrive (DS2 Red)	Indicates that the level of the drive is too high and the protection circuit will limit the drive to the set threshold. This fault is generated on the amplifier control board.
VSWR Cutback (DS1 Red)	Indicates that the reflected power level of the tray has increased above 50% and the output power level will automatically be cut back to 20%. This fault is generated on the amplifier control board.
Overtemp (DS3 Red)	Indicates that the temperature of (A5-A6-A3 and A5-A6-A4), one or both of the two thermal switches mounted on the heatsink assembly for the output amplifiers, is above 175° F. When this fault occurs, the Enable to the switching power supply in the affected amplifier tray is removed immediately and the tray will shut down.
Input Fault (DS5 Red)	Indicates that the input RF level to the amplifier trays has dropped below the 0 dBm range

Table 2-9. UHF Amplifier Tray, LDMOS Control Adjustments

ADJUSTMENT	DESCRIPTION
Phase (A10-R5)	Adjusts the phase of the RF output by approximately 70%
Gain (A11-R6)	Adjusts the gain of the RF output when the amplifier control board is in the AGC mode

Table 2-10. UHF Amplifier Tray, LDMOS Sample

SAMPLE	DESCRIPTION
Module O/P (0 dBm)	A sample of the combined output of the four dual-stage amplifier boards that is taken from the dual peak detector board

2.3 Input and Remote Connections

The Baseband Video and Audio Inputs to the Translator, connect to the (A9) Remote Interface Panel located on the rear of the UHF Exciter Assembly. The Baseband Video Input connects to Jack J2, which is loop-thru connected to J1,

that is wired to J1 on the Exciter. The Baseband Audio Input connects to Terminal Block TB1 for Balanced Audio or to Jack J6, which is loop-thru connected to J13, that is wired to J3 on the Exciter, for Composite, Stereo, Audio.

Remote Monitoring and Operation of the Translator is provided through the Jacks (J8, J9 & J10) located on (A9) the Remote Interface Assembly located on the rear of the UHF Exciter Assembly. Jack (J7) should have a dummy plug connected to it, which has a jumper connected between Pins 1 & 2, that provides the Interlock to the Exciter needed to operate the Translator. If the Jumper is missing, the Translator will not switch to Operate. If remote connections are made to the Translator they should be made through the plugs provided in the Installation Material as noted on the Interconnect Drawing (1278-8400) for the Single UHF Exciter.

The On Channel RF Input to the Receiver Tray connects to the Translator through (A9) the Remote Interface Assembly at J1, "N" type connector, for 50Ω Input or J3, "F" type connector, for 75Ω Input.

The remote connections, listed in Table 2-11, are made to the (A9) A/V input and remote interface assembly mounted at the top, facing the rear of the UHF Exciter Cabinet. The remote connections are made to jacks J7(9 Pos D con), J8(25 Pos D con), J9(37 Pos D con) and J10(25 Pos D con) on the assembly. Refer to the exciter interconnect drawing (1278-8400) for the proper pin remote connections.

Table 2-11. UHF Exciter Remote Interface Connections to the (A9) A/V Input and Remote Interface Assembly

FUNCTION	REMOTE JACK/PIN NUMBER	INTERFACE TYPE
Translator Enable Interlock	J7-1	J7-1 and J7-2 must be jumpered together for normal operation. The (1176-1038) jumper jack should be in place.
Translator Enable Interlock Rtn.	J7-1	
Remote Control Commands		
Translator Standby (Disable)	J8-1	Contact closure
Translator Standby/Operate Rtn.	J8-2	
Translator Operate (Enable)	J8-3	Contact closure
Translator Manual	J8-4	Contact closure
Translator Auto/Manual Rtn.	J8-5	
Translator Auto	J8-6	Contact closure
Power Level Lower (Optional)	J9-4	Contact closure
Pwr Lvl Raise/Lower Rtn (Optional)	J9-5	
Power Level Raise (Optional)	J9-6	Contact closure
Modulator Select (Optional)	J8-10	Contact closure
Modulator Select Rtn (Optional)	J8-11	

FUNCTION	REMOTE JACK/PIN NUMBER	INTERFACE TYPE
Remote Status Indications		
Translator Operate (Enable) Ind.	J9-1	50 mA max current sink
Operate/Standby Ind. Return	J9-2	
Translator Standby (Disable) Ind.	J9-3	50 mA max current sink
Translator Auto Indicator	J9-30	50 mA max current sink
Auto/Manual Indicator Return	J9-31	
Translator Manual Indicator	J9-32	50 mA max current sink
VSWR Cutback Indicator	J8-7	50 mA max current sink
Video Loss (Fault) Indicator	J9-7	50 mA max current sink
Video Loss (Fault) Ind. Rtn.	J9-8	
Receiver Fault	J8-9	50 mA max current sink
Remote Metering		
Combined Aural Output Power	J10-5	1V full scale at 1k Ω source resistance
Combined Aural Output Power Rtn	J10-6	
Combined Visual Output Power	J10-7	1V full scale at 1k Ω source resistance
Combined Visual Output Power Rtn	J10-8	
Combined Reflected Output Power	J10-9	1V full scale at 1k Ω source resistance
Combined Reflected Output Power Rtn	J10-10	
Exciter Output Power	J9-26	1V full scale at 1k Ω source resistance
Exciter Output Power Rtn	J9-27	
Side A Driver Output Power	J10-1	1V full scale at 1k Ω source resistance
Side A Driver O/P Power Rtn	J10-2	
Side B Driver Output Power	J10-3	1V full scale at 1k Ω source resistance
Side B Driver O/P Power Rtn	J10-4	
Side A Forward Output Power	J10-14	1V full scale at 1k Ω source resistance
Side A Forward O/P Power Rtn	J10-15	
Side A Reflected Output Power	J10-16	1V full scale at 1k Ω source resistance
Side A Reflected O/P Power Rtn	J10-17	
Side B Forward Output Power	J10-20	1V full scale at 1k Ω source resistance
Side B Forward O/P Power Rtn	J10-21	
Side B Reflected Output Power	J10-18	1V full scale at 1k Ω source resistance
Side B Reflected O/P Power Rtn	J10-19	

FUNCTION	REMOTE JACK/PIN NUMBER	INTERFACE TYPE
Remote Metering		
Combined Reject Power	J10-11	
Combined Reject Power Rtn	J10-12	

The remote connections, shown in Table 2-13, are made to (A11) the remote interface assembly, mounted at the top, facing the rear of each Amplifier Array Cabinet. These remote connections are

made to jack J5(37 Pos D con) on the assembly. Refer to the 2-3kW amplifier array interconnect drawing (1278-8300) for the proper pin remote connections.

Table 2-13. 2-3 kW Amplifier Array Remote Interface Connections to the (A11) Remote Interface Assembly

FUNCTION	REMOTE JACK/PIN NUMBER	INTERFACE TYPE
Remote Metering		
(A1) UHF Amplifier Tray Reflected Output Power Rtn	J5-1	1V full scale at 1k Ω source resistance
(A1) UHF Amplifier Tray Reflected Output Power	J5-2	
(A1) UHF Amplifier Tray Forward Output Power Rtn	J5-3	1V full scale at 1k Ω source resistance
(A1) UHF Amplifier Tray Forward Output Power	J5-4	
(A2) UHF Amplifier Tray Reflected Output Power Rtn	J5-5	1V full scale at 1k Ω source resistance
(A2) UHF Amplifier Tray Reflected Output Power	J5-6	
(A2) UHF Amplifier Tray Forward Output Power Rtn	J5-7	1V full scale at 1k Ω source resistance
(A2) UHF Amplifier Tray Forward Output Power	J5-8	
(A3) UHF Amplifier Tray Reflected Output Power	J5-9	1V full scale at 1k Ω source resistance
(A3) UHF Amplifier Tray Reflected Output Power Rtn	J5-10	
(A3) UHF Amplifier Tray Forward Output Power	J5-11	1V full scale at 1k Ω source resistance
(A3) UHF Amplifier Tray Forward Output Power Rtn	J5-12	

FUNCTION	REMOTE JACK/PIN NUMBER	INTERFACE TYPE
Remote Metering		
(A4) UHF Amplifier Tray Forward Output Power	J5-13	1V full scale at 1k Ω source resistance
(A4) UHF Amplifier Tray Forward Output Power Rtn	J5-14	
(A4) UHF Amplifier Tray Reflected Output Power	J5-15	1V full scale at 1k Ω source resistance
(A4) UHF Amplifier Tray Reflected Output Power Rtn	J5-16	
(A5) UHF Amplifier Tray Forward Output Power (5kW configuration)	J5-18	1V full scale at 1k Ω source resistance
(A5) UHF Amplifier Tray Forward Output Power Rtn(5kW configuration)	J5-17	
(A5) UHF Amplifier Tray Reflected Output Power(5kW configuration)	J5-21	1V full scale at 1k Ω source resistance
(A5) UHF Amplifier Tray Reflected Output Power Rtn(5kW configuration)	J5-20	
(A6) UHF Amplifier Tray Forward Output Power(6kW configuration)	J5-22	1V full scale at 1k Ω source resistance
(A6) UHF Amplifier Tray Forward Output Power Rtn(6kW configuration)	J5-23	
(A6) UHF Amplifier Tray Reflected Output Power(6kW configuration)	J5-24	1V full scale at 1k Ω source resistance
(A6) UHF Amplifier Tray Reflected Output Power Rtn(6kW configuration)	J5-25	

2.4 Main AC Input

The Translator needs an AC input of 208/240 VAC @ 55 Amps Three Phase or 100 Amps Single Phase for each Amplifier Array Assembly and 208/240 VAC @ 20 Amps Single Phase for the UHF Exciter Assembly.

These AC Inputs connect to the AC Distribution Assemblies located facing toward the rear in the middle, right side of each of the cabinets.