



# **Anywave Communication Technologies**

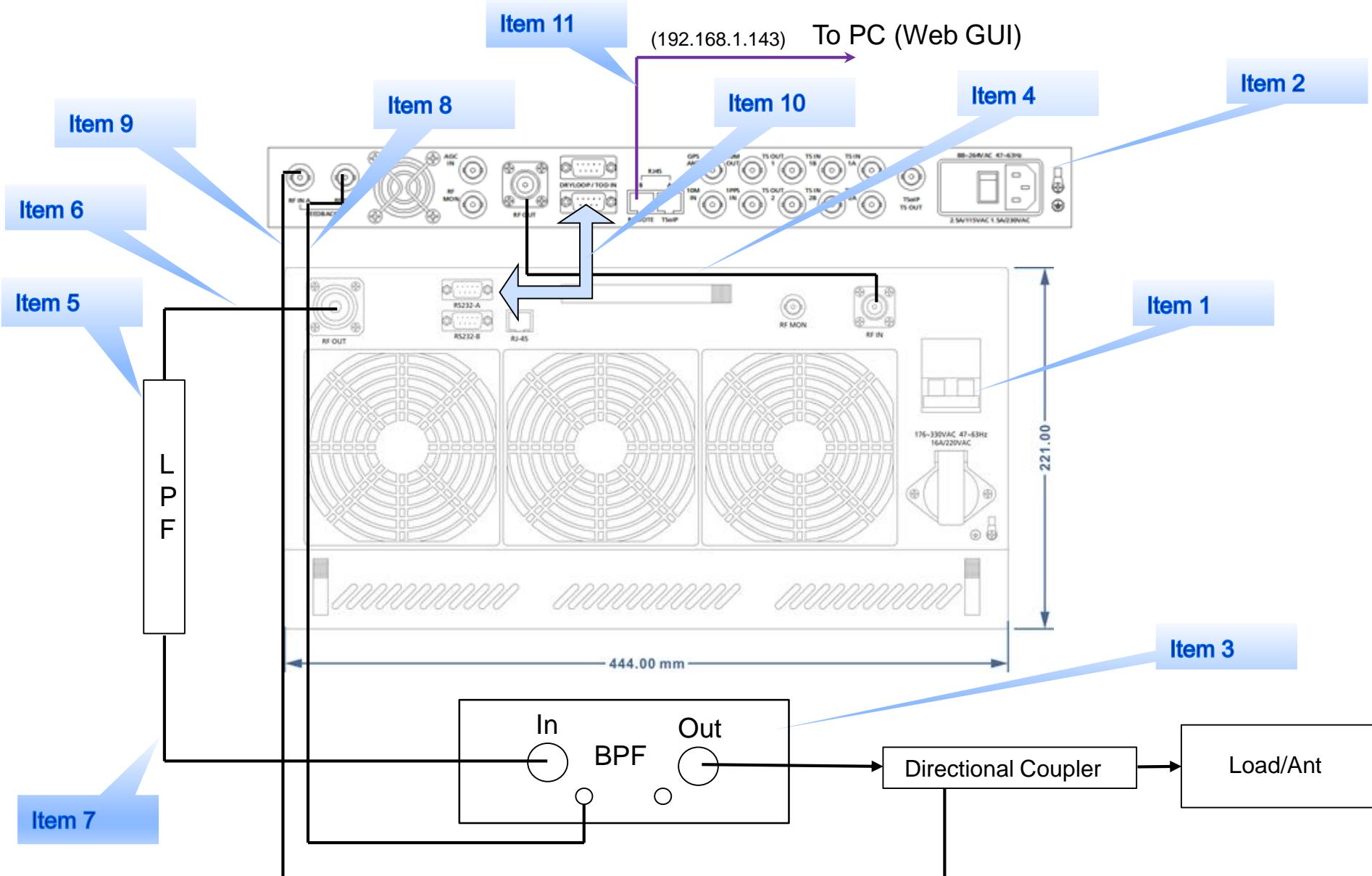
LPTV Quick Start (Setup & Turn On) Guide

# LPTV Equip List – (typical)



Item #	Description	QTY	Model #	Part #
1	560W PA	1	ACT-560U-A-C	100510.01
2	5X Exciter	1	ACT-5XU-A-C	100004.01
3	600W UHF 6-pole BPF 7-16	1	RF-BPF-6-U-600-###S	200518.01
4	3 ft N-N RF cable (Exc to PA)	1	CBL-N-M-RF-3	201208.01
5	2KW UHF 7/16 LPF	1	RF-HF-U-716D-2000	200602.01
6	3 ft 7/16-7/16 DIN (PA to LPF))	1	CBL716-M-RF-3	201211.01
7	6 ft 7/16-7/16 DIN (LPF to BPF))	1	CBL716-M-RF-6	201212.01
8	3 ft BNC-BNC (BPF BEFORE to Exc RF_INB)	1	CBL-BNC-M-RF-3	201205.01
9	3 ft BNC-BNC (Dir Coupler After to Exc RF_INA)	1	CBL-BNC-M-RF-3	201205.01
10	3 ft RS232-Serial Cable (Exciter REMOTE D9 to PA RS232-A)	1	CBL-RS232-3	201201.01
11	3 ft Ethernet cable (CAT5) (included with PA)	1	CBL-ETH-3	201202.01

# Interconnect Diagram: (typical)



# Quick Start Guide – Turning On Your System (1)

1. **Unpack the equipment and make sure you received all materials outline in the equipment list on p2.** (note: All Single PA TX systems ship with an AC power cord included with every Exciter and PA. The PA shipment also includes an RS232 cable, for Exciter to PA communications, and a CAT5 Ethernet cable, for Exciter to PC built-in web interface communications.)
2. **With all equipment still turned OFF, please make the cable connections according to the interconnect diagram on p3.** Also connect any external test equipment, power meters, spectrum analyzers, etc. to desired system test points (note: Exciter LCD %FWD, SNR, LID, UID metrics are based off the After BPF feedback sample (RF IN A BNC) on rear panel)
3. **Turn on Exciter and set Exciter to LOCAL mode, set ADPC to OFF (SYSTEM submenu), be sure RF is Off, and AGC is OFF (RF submenu)** (Please refer to your Exciter User Manual for help with menu navigation and detailed operation of the exciter).
4. **Check and set the Exciter Input selection (TS for Transmitter, Tuner for Translator) (under SYSTEM submenu)**
5. **Check and set the Exciter TX frequency (this is your Center channel frequency under FREQ submenu)**
6. **Set Exciter RF POWER level to -15bBm (under RF submenu)**
7. **Double Check that the PA and/or BPF is properly connected to the Antenna feed or suitable Load, then turn the PA ON via PA rear panel breaker, then press the front panel PA RF On/Off button - which should turn BLUE when ON**
8. **Visit the PAC menu on the Exciter (under Advanced submenu) and verify that the voltages and currents are showing real values and not 0s**
9. **Under the RF submenu, with the Exciter RF still reduced, and AGC OFF, turn the Exciter RF ON, verify Exciter RF LED turns ON front panel of Exciter**
10. **Bring the power up slowly to half rated output power (measured via power meter (with proper coupling value set) and Directional coupler after the BPF)**
11. **Check uncorrected SNR and LID/UID on Exciter front panel, with BPF (17<TSNR<20dB, LID/UID >40dB), without BPF (TSNR>27dB, LID/UID >40dB)**
12. **You are now ready to perform Linear and Non-Linear corrections.** (Please refer to the Exciter User Manual for detailed instructions on running corrections). Before running corrections, it is important to verify proper feedback signal levels. There are two feedback signal samples used to compute corrections. “RF In A” (After BPF) is used to calculate Linear correction coefficients while “RF IN B” (Before BPF) is used to compute the Non-Linear correction coefficients.
13. **Navigate to the Exciter “DPD” submenu in the Advanced User menu (simultaneously press Left and Right buttons, then simultaneously press UP and Down buttons).** Be sure the value of Feedback Sample Signal Input (FSSI) for both A (after) and B (before) reads somewhere between 45% and 75% - which roughly corresponds to a value of -15 to -5 dBm as measured on a power meter (note: the FSSI indicator toggles between A and B and will “flash” when the signal level is out of range, too high or too low). Add or remove the appropriate attenuator padding to achieve feedback signal levels in the desired range.

# Quick Start Guide – Turning On Your System (2)



14. Check and set the value of PDT (set to 3) and CFR (set to F) in the DPD Advanced Menu (Note: CFR=F means NO CFR, CFR=0, means maximum CFR)
15. Navigate to the Exciter “SYSTEM” submenu and select UPDATE under ADPC to run corrections. The exciter will then proceed through 4 stages of correction, automatically computing Linear and Non-Linear corrections, and saving the coefficients into non-volatile memory upon completion. The correction process typically takes from 8-10 minutes to complete while real-time performance metrics of SNR and Shoulder performance are displayed on the LCD.
16. Verify that SNR and Shoulders meet spec on the Exciter front panel at half power
17. Bring the power up slowly to full output power (560W measured via power meter (with proper coupling value set) and Directional coupler after the BPF)
18. Navigate to your ACT-5X Exciter “PAC” submenu in the Advanced User menu (simultaneously press Left and Right buttons, then simultaneously press UP and Down buttons) and verify the reading of PA\_FWD power (note: this is the output power of the PA before the LPF + BPF and not your FWD System power, which will include the loss of your LPF + BPF).
19. Check and verify feedback samples at full power (FSSI A and B) are in the range of 45-75% (adjust attenuator pads as needed)
20. Run corrections via UPDATE under ADPC in the Exciter SYSTEM submenu
21. Verify RF Performance metrics are in spec (SNR > 27dB, Shoulders > 47 dB) on the front panel screen of the exciter (change the value of CFR or rerun correction if necessary to meet specs)
22. Allow system to operate at full output power for 30 minutes and then return to the Exciter “RF” submenu and make any required adjustments to output power by slightly changing the value of POWER up or down to achieve 100% system FWD power.
23. Navigate to the CAL setting under the AD3 Advanced submenu and select CAL then press OK to calibrate the FWD PWR meter on the Exciter front panel to 100%
24. Your TX should now be up and running properly into your load or on-air antenna. To turn the TX On/Off, please use the RF On/OFF control in the RF submenu of the exciter or the exciter web interface (which you may network to via the exciter REMOTE RJ-45 rear panel connection at 192.168.1.143 – you can change the exciter ipaddress by navigating to the CONFIG submenu (simultaneously press Left and Right buttons) and changing the value of IP.)
25. If using the Exciter Built-in remote web interface for remote control, please be sure to set the Exciter to REMOTE mode before leaving the transmitter site. The Remote/Local setting is located under the SYSTEM submenu. Most of the Local TX controls are available on the remote web interface, including On/Off, Raise/Lower power, etc. (refer to the Exciter user manual for details).

# Contact Information

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